MEDICAL REPOSITORY,

FOR

NOVEMBER, DECEMBER, 1810, AND

JANUARY, 1811.

Facts and Observations relative to the Trade from New-York to the Fejee Islands; and especially to the practice among the people there, of eating human flesh: In a letter from Dr. MITCHILL *to* Mr. MALTHUS, *dated New-York, November* 10, 1810.

SIR,

SOME voyages made from North America to the South-Sea Islands, have disclosed to me various information, so entirely conformable to the principle which pervades your Essay on Population, that I do myself the pleasure of laying it before you without delay.

The discovery of Sandle-wood, in the Fejee Islands, gave rise to several voyages from New-York thither, to procure it, in the years 1806, 7, and 8. The wood is carried to the Canton market, where it is sold for a very high price. Five cents a pound, or four hundred dollars a ton, are reckoned to be very low terms. It has sometimes fetched 25 cents, or a quarter of a dollar the pound. It is burned, as a rite of religion, by the Chinese, before the images of their worship. Like the frankincense of the Jews and Christians, burning Sandle is supposed to be peculiarly agreeable to the Josses or objects of their adoration. To economize the costly article which affords such aromatic smoke, sticks, composed of its saw-dust by glue, and papers scented with a little of its essential oil, are employed as effectually to conciliate the good will of their josses, as if their nostrils were fumigated with the vapour of the chips, shavings, or solid wood itself.

The situation of Toconroba, a principal island of that cluster, and the means of obtaining the sandle which it produced, were early investigated by the New-Yorkers. Several persons from that city sailed thither, and conciliated the favour of Bimbimboolah, the native chief of that part of the island which they visited. He and his subjects assisted them in cutting the trees, and carrying the wood to the landing where the ship lay. For this they were paid in blue beads, nails, knives, razors, scissors, axes, and the articles they were willing to receive, in the course of a fair commerce. They parted in friendship, having first made an agreement that another cargo of sandle should be ready for delivery at the shore, on the return of the ship from New-York, after having performed her voyage to Canton.

In due time another ship appeared at the place appointed to receive the wood. Bimbimboolah had been faithful to his engagement as far as was practicable. But a rebellion had broke out among his subjects, a part of whom opposed the transportation of any more wood from the interior and remoter districts, to the accustomed place at the shore. These insurgents flew to arms, and bade defiance to their sovereign's authority. A civil war had actually commenced among the natives; and so powerful were the opponents of Bimbimboolah, that they effectually put a stop to the further felling of sandle trees, and to the completion of the ship's loading with their wood. To secure the great object of the voyage, and procure the full cargo for the ship, it was judged expedient to take a side in the contest. A part of the ship's crew, with fire-arms, joined the Prince against his rebellious subjects, and, after killing upwards of a hundred, put an end to the war. The residue of the sandle, necessary to load the ship, was then procured without resistance.

Among the information obtained by these voyages, that which relates to the eating of human flesh is very pointed and curious. Some of the persons belonging to the ship, made excursions of several miles towards the inland and mountainous parts of the island. Others became personally acquainted with many of the natives by being much ashore with them, and in situations to observe their manners and customs. These people also frequently visited the ship. Bimbimboolah himself, though a mild and honest man, was known to be a cannibal; for he brought a piece

of human flesh with him on board the ship, on one of his visits. He appears to have got this meat, as his part of the spoil, after the battle. For the first care of the conquerors is to distribute among themselves the dead bodies of their enemies. These being intended for feasting upon, are called, in their language, Begola. The bodies of those who are slain on their own side, they bury in the earth. Their island contains no animal, except man, which equals or exceeds the size of a hog. They have not the remotest idea of neat-cattle, nor of any of the other domestic quadrupeds used for food among the civilized nations. Consequently, when they saw the salted meats of the ship, they acknowledged the pork to be the flesh of the hog, an animal they were well acquainted with. But they insisted that beef was Begola; and nothing could convince them to the contrary. And the settled opinion among them, to this day, is, that the white men, whom they call Popolang, are more given to feeding upon one another than themselves are. For, while the Fejeeans say they only devour their species occasionally, after battles, and while the meat is fresh, the Popolang salt it down for consumption every day, and on all occasions.

They were not satisfied that grape-shot and bullets could completely destroy life. Whenever, therefore, they found any person lying dead of wounds from these causes, they never failed to break the sculls with their clubs.

It very rarely happens that any prisoners are taken. Agreeably to the natural and original notion of war, extermination is carried to the uttermost. As examples of this it was observed, that while a New-Yorker, one of Bimbimboolah's white allies, was interceding with one of the Fejee victors for the life of a fine boy, another loyal subject put an end to the negociation by dashing out his brains. A woman, after having received a death-blow on the head, was dragged to the shore, and thrown into a canoe while she was yet breathing. Her infant, yet a suckling, after receiving a similar stroke, was thrown in with her. My informant saw the woman raise her arm to her fractured forehead, and the child attempt to crawl towards the mother's breast. These victims of war soon expired, and after having satiated the rage, glutted the hunger of their conqueror.

The joy of the surviving victors was strongly expressed,

in getting possession of the carcasses of the slain. The place of action was not far from the landing. The bodies of the killed were dragged on the ground by a leg, or an arm, to the water-side, with expressions of extravagant pleasure; and to avoid the labour of carrying them down to the shore, it was no uncommon occurrence for several of the victors to force a struggling captive from the field of battle to the water's edge, just as live stock are driven by our butchers to the place of slaughter, and there immolate the wretch to their vengeance. It is a high compliment to a neighbouring chief, to send him a good mess of Begola, that he may eat and feel well on the occasion.

The reasons why the dead are so generally conveyed to the water, are, that they may be the more easily carried off in canoes, and more readily embowelled, washed, and cut asunder. A sharpened bamboo serves as a knife to sever the skin and flesh, and a stone to separate the bones. The pieces of Begola are baked between hot stones in the ground, as their pork is cooked; and when the process is finished, the smell is as pleasant as that of any roasted or baked meat whatever. It is eaten with an exquisite relish, with their other and ordinary articles of food. As the Popolang, or white men, have signified great horror at these banquets, the natives, on discovery of this aversion, generally eat their Begola among themselves, and conceal it from the strangers as much as they can. Fat, healthy children are considered as dainty morsels: young and handsome women are reckoned very fine eating. The most highly prized of all the parts of the human body, are the breasts of females, which are cooked with peculiar care, and served up to their Chiefs.

Their taste for human flesh is so predominant, that a Fejeean frequently feels and examines the bare parts of the body of the person he is conversing with in the most amicable manner; and if he approves the quality, he expresses his satisfaction by uttering the words *Canne—Canne*, which denote what delicious eating he thinks that flesh would make.

This account of our New-York navigators is confirmed by the observations of the English:—

"Some Sydney Gazettes have stated the particulars of a Cannibal Expedition from the Fejee Islands, of which Mr. Thomas Smith, second officer of the Fa-

vourite, Captain Campbell, (who was unexpectedly made prisoner by the natives on the 7th October last, soon after the arrival of the vessel at those islands) was compelled to be a witness. A large fleet of canoes sailed from Higalea on the 11th of October, to make war upon the island of Tassere, or Tasseia: they arrived on the 12th, and had a desperate conflict with the natives of Tassere, who were also in their canoes; but the latter, overpowered by a great superiority of numbers, were forced to give way and fled on shore. The canoes were taken possession of, with only one captive, an unfortunate boy, who being presented to Bullandam, (the relentless Fejee chief,) was ordered to be slaughtered, as it was his determination that not a single life should be spared. This ruthless sentence was immediately executed with a club; three blows from which the youthful sufferer endured, and then expired. The boy was afterwards given into the charge of an attendant, to be roasted for the chief and his associates. The horrors that immediately succeeded the defeat, the most sensible imagination can but faintly represent. A massacre was determined on; and as the men had fled the fury of their conquerors, the women and children became the chief object of their search; on which mission a canoe was dispatched, and unhappily the fatal discovery was very soon made. On a signal from the shore, numbers landed, and a hut was set fire to, probably as a signal for the work of destruction to commence. Within a cluster of mangroves the devoted wretches had taken sanctuary. Many might undoubtedly have secured themselves by accompanying the flight of their vanquished husbands and relatives, could they have consented to a separation from their helpless children, who were no less devoted than themselves.

"A dreadful yell was the forerunner of the assault. The ferocious monsters rushed upon them with their clubs, and, without regard to sex and infancy, promiscuously butchered all. Some, who still had life and motion, were treated as dead bodies, which were mostly hauled to the beach by one of their limbs, and through the water into the canoes. Their groans were disregarded, and their unheeded, protracted sufferings, were still more hurtful to the feelings of humanity than even the general massacre itself had been. Among the slaughtered were some few men whose age, perhaps, had prevented their flight; but in fact, so dreadful was the

consternation that succeeded the defeat of the unhappy natives of Taffere, as no doubt to paralyze the minds of the wretched creatures when prompt consideration could alone be serviceable to their deplorable condition. The conquerors appeared to anticipate, with inordinate delight, the festival with which this sad event had gratified their horrible expectations. Forty-two bodies were extended on one platform in Bullandam's canoe; and one of these, a young female, appearing most to attract his attention, he desired that his second in command would have it laid by for themselves.

"The dead bodies were soon got into the canoes, and the whole fleet left Taffere on their return to the main island; where many others joined in the horrible festivity, which was conducted with rude peals of acclamation. Mr. Smith was, on this occasion, also taken on shore by the great chief, and here had again to experience a detestable spectacle. The bodies had been dismembered of their limbs, which were suspended on the boughs of trees in readiness for cookery; and afterwards part of a human leg was offered to Mr. Smith, who had never broke his fast for five days. The offer he rejected with abhorrence; and upon his captors appearing astonished at the refusal, he gave them to understand, that if he eat of human flesh he would instantly die. They were satisfied with this excuse, and continued their abominable festivity the whole night.

"Mr. Smith was at length released, after fasting nine days; as were also some of the crew of the vessel, who had likewise been taken prisoners."

Curiosity has been employed, ever since these races of cannibals on the South Sea islands were known, to discover the cause which induces men to devour each other. There may be a concurrence of several motives. Among these may be reckoned the gratification of savage fury and revenge. But there is probably another incentive to this practice, yet more powerful. This is the scarcity of food, produced by a too numerous population. The inhabitants of these islands chiefly depend for their sustenance on vegetable food. This consists of bread-fruit, arrow-root, yams, cocoa-nuts, and some other productions of the warm latitudes. They also procure some articles of an animal nature. With nets, hooks, and spears, they catch fishes; and other inhabitants of the sea that washes their shores, be-

come their prey. But these supplies are necessarily precarious, and frequently scanty. They have no quadrupeds but swine and dogs; and being fed upon the like articles that support their owners, these beasts are competitors with the human species for their share in the stock of provisions: and although they are eventually eaten, yet the flesh of the comparatively small number that is raised, would seem rather to whet the appetites of these people for animal food than to allay it. The number of the individuals born, seems to exceed the amount of provisions to feed them. The increase of population progressing faster than the increase of nourishment, gives rise to uneasiness, and to new efforts to get a living. Individual suffering overcomes the regard to a neighbour's rights. Acts of plundering and piracy are committed. Quarrels, contentions and wars, are excited. Subsistence being the great object, they lose no opportunity of satisfying their hungry appetites. No prisoners are taken in combat. All are killed whom the power of the stronger can destroy. The victor considers the body of his slaughtered enemy a precious part of his reward. In a country where vegetable food is by no means plentiful, and where the flesh of land-animals is a great dainty, the carcasses of the slain are too valuable to be thrown away. They are reserved for eating; and the conqueror feasts with a good stomach upon him whom he overcame in battle. The situation of these people, and their state of society, thus prompts them to make the most of every morsel of sustenance they can procure; and in these they show a saving and economy, of which the civilized world furnishes no example. After the waste and consumption of war, peace and plenty are enjoyed by the survivors, until a renewal of the numbers shall, by lessening the quantity of food, give rise to the restlessness and violence that end in other wars, which are carried on until the human species is sufficiently thinned to permit once more a restoration of peace.

Be pleased to accept this small acknowledgment of the pleasure and instruction I have derived from your writings.

SAMUEL L. MITCHILL.

A case of Abscess, whence Hairs, Teeth, and other substances were discharged. By TUCKER HARRIS, M. D. *of Charleston, (S. C.) in a communication to Dr.* MITCHILL.

IN April, 1776, a negro woman, between 18 and 19 years of age, was placed under my care. The circumstances of her case were nearly the following.

About 18 months, or two years before, a small tumour had appeared a little below the umbilicus, and gradually increased to the size of about one inch in diameter. This had frequently broke; and after discharging a trifling quantity of thin matter from a small orifice, would heal up. But suppurations, and discharges of the like kind, repeatedly took place. Except sometimes a pain in the part, and a slight fever, she had no other complaint worth mentioning. The catamenia were regular, both before and during my attendance on her. But whether any suppression had taken place previous to the formation of the tumour, I was never able to ascertain with accuracy.

Through the small orifice I could introduce a probe superficially about half an inch up towards the umbilicus, and both downward and inwardly, somewhat more than an inch. Both these sinuses were fully laid open, and the part distended with lint. After a few days I noticed, to my surprise, several black hairs from 4 to 6 inches in length, curled like those of a mestizo, which adhered to the dressings. These were covered with a more copious discharge of thin white matter, intermingled with a curdled substance, similar to that which is sometimes observed in scrophulous tumours, and of a fœtid smell. With the assistance of a forceps, I took away a great number of these hairs, which generally gave some resistance during the extraction; and on attempting to pinch with the forceps the part to which they adhered, a hardness resembling that of a cartilaginous substance, was to be felt.

Finding the discharge to be considerable, and that a probe could now be passed fully downwards for several inches, nearly to the Os Pubis, I determined to make a counter-opening at the most depending part of the abscess, and to pass a seton through it. This was accordingly done; but though the discharge through the lower aperture went on

freely for some time, yet there was no disposition to heal up in any part. I therefore desired to have the opinion of another gentleman of the profession, and the late Dr. David Olyphant attended with me. It was agreed to lay the whole open by an incision extending on one side of the Linea Alba, from the upper orifice, near the umbilicus, to the lower one, an inch or so, above the Os Pubis. This being done laid open to view a substance of the size of a turkey's egg, firmly adhering to the Peritoneum by three distinct pedunculi or roots, which approximated toward each other at that part of this membrane, to which they were attached. Over the whole external surface of this substance were to be seen innumerable short black hairs, together with a few of the longer ones. The former seemed to be regenerated in the place of those extracted at the different dressings; and upon the whole it very much resembled the hairy scalp of a negro infant. On making a slight incision into this substance, I found it organized; that is, a very minute artery threw out, per saltum, a small quantity of blood.

Having proceeded thus far, it was determined shortly after to extirpate this uncommon appearance, which was done towards the close of August, without any hæmorrhage whatever. The operation was easily performed. But in order effectually to remove the pedunculi or roots, that part of the peritoneum to which they were attached, was necessarily to be cut away; leaving an aperture, through which a small portion of the omentum immediately protruded. This was as speedily returned into the cavity of the abdomen, and the part covered with a button of lint, and a compress or two over that. The patient was directed to observe a supine posture for a few days; and the wound being dressed in the most simple manner, was healed up by the latter end of October, without any bad symptoms whatever. She afterwards became twice pregnant, and brought forth full grown, well-formed children.

Upon examination of this extirpated substance, it appeared to be of a structure approaching to that of cartilage. In the middle of it was discovered an osseous substance; and no very inventive genius was required to trace some distant resemblance of the cranium and cervical vertebræ, (though very small and compressed) annexed to it. There was also a distinct bone, of an irregular shape, connected

with the former; but by washing in water, it separated. These parts of this extraordinary production, I sent some years since to Dr. Alexander Monro, Professor of Anatomy in Edinburgh. We also found two small substances, covered with a perfect enamel, which exactly resembled the Dentes Incisivi in size, as found in the sockets of the jaw of infants, before they are near ready to pierce the gums. These two last I have frequently shown to gentlemen of my acquaintance in the medical line, who entertained the same opinion of them which I had formed.

In order to do impartial justice to the account, I must take notice that Dr. Monro, to whom I sent part of the before-mentioned substances, but not the two last, which had got lost, imagined them "to be of a cretaceous nature, "such as he had found in different tumours, and particular-"ly in a cancerous tumour which formed between the skin "and muscles of the back. The hairs he supposed to have "grown from some fatty substance, connected with the "cartilaginous mass, which inclosed the cretaceous matter. "He mentions one case in which he found a bunch of hairs "within a tumour of the Ovarium, of the size of an egg, "rooted in a fatty substance."

I will not pretend to contradict his opinion, or to ascertain, precisely, what this singular appearance really was. I am, however, confident that the two substances referred to before, which so exactly resembled teeth, with their enamel, and which he did not see, must have staggered such an opinion.

In relating the foregoing case, I have only stated simple matters of fact. It is, on the whole, a case more of curiosity than utility; and yet some useful information may be derived from it; viz. that a part of the peritoneum, in a sound state, may be extirpated with no bad consequences. On occasions like this, if conjecture is to be allowed, am I warranted in supposing it to be a part of an extra-uterine fœtus? The principal objections to this are, that the whole substance, for a long time, occupied a seat exterior to the peritoneum, between that membrane, to which it strongly adhered, and the abdominal muscles; and the difficulty to explain in what manner it proceeded from the organs of generation, so as to be fixed there.

Charleston, May 16, 1810.

Information concerning FOEZ, *or, as he is more commonly called,* FOESIUS, *the famous Editor of the writings of Hippocrates: Translated for the Medical Repository, from a sketch by M. Percy, printed in the* Bulletin de la Faculté de Medecine de Paris, *&c.* 1809, *No.* X. *p.* 162, *and seq.*

FOR more than two centuries we have enjoyed the painful watchings, and the immense erudition of *Foëz*, the most judicious and exact interpreter that *Hippocrates* ever had; and yet the history of this laborious translator is scarcely known.

Anuce Foëz was born at Metz, in 1528, at a time when the Greek language was but little diffused among us. He commenced his studies at Metz, and came, at the age of twelve years, to finish them at Paris. He attended the University until he was twenty, distinguishing himself among his fellow-students, and astonishing his instructors by his incessant application, his rapid progress, and his extraordinary sagacity.

He was poor, and made choice of a profession, in which an honest man, with intelligence and a good heart, might at once display talents, and exercise the benevolent dispositions. The medical faculty of Paris at that day, counted several distinguished men among its members. Among these were *Goupil*, *Fernel*, and *Houllier*. The two latter of these soon distinguished, among the crowd of hearers, young *Foëz*. They made him their first pupil, and employed him to collect the Greek authorities, of which they stood in need. This was the æra when he began the study of Hippocrates, in the manuscripts which were procured for him, and which were far from being complete.

Foëz, being in no condition to support himself longer in Paris, and too delicate to accept the offers of the rich and generous *Houllier*, determined to return to his family, although he had as yet only received the Bachelor's degree. He appeared once more at Metz in 1552, a year memorable for the siege of that place, then so important, and at the foot of whose ramparts the redoubled efforts of *Charles the Fifth* failed. Should a doubt be entertained whether Foëz was at the siege of Metz, it appears certain that it was he, who, after the deliverance of the town, gave the idea and

the design of the famous medal which was then struck, with the motto *non ultra metas*, in allusion to that of Charles V. which was inscribed *ultra metas*.

This learned man succeeded to the office of salaried physician, or naturalist, after *Guintier* and *Lacuna*, one of whom, on leaving Metz, and the other, on his death-bed, recommended their young colleague as the most worthy heir of the confidence and consideration which they had enjoyed. Versed already in the lore of Hippocrates, which never ceased to engage his mind, he made so happy an application of it, that the noise of his surprising cures soon extended to a great distance, and procured him offers from several Princes, which his attachment to his country induced him ever to refuse. The practice of physic could not, however, divert him from his favourite studies. Frugal in his house, retired among his books, without pretensions to write, and without the ostentation of knowledge, he seemed to exist only for the sick, and for teaching more certainly how to relieve them.

In 1560, he published a translation of Hippocrates's second book of Popular Distempers; a book rich in facts, observations, and luminous precepts. This first production was dedicated to Charles III. Duke of Lorraine, and printed at Basle. It added to the reputation of *Foëz*, who was that year received among the Doctors of the Faculty of Medicine, which the family of the *Guises* had late added to the University of *Pont-a-Mousson*.

The following year he also printed at Basle, a Dispensatory, or sort of Codex, to determine the medicines which ought to be kept by the apothecaries of Metz. This project has found imitators in Paris, and in other capitals.

In 1588, he published a kind of vocabulary of the works of Hippocrates, which he entitled *Œconomia Hippocratis alphabeti sercé distincta;* a dry and disagreeable task, but indispensable to those who wish to consult Hippocrates in the original. This performance, which had cost its author so much labour, and evinces such prodigious erudition, excited envy, and stirred him up enemies. He was charged with being a closet-physician, a systematic man, a modern doctor of the Grecian stamp, possessing, indeed, some theoretical notions, but absolutely destitute of practice.

The employment and confidence of the people of sense, of the more select inhabitants of Metz, and of the persons

at the head of the government, fully avenged *Foëz* against such miserable detraction. His *Œconomia Hippocratis* caused the greatest sensation in the learned world, and it was concluded, in consequence, that its author was the only one capable of giving a full and correct edition of the writings of Hippocrates.

Foëz had not intended to proceed further than to translate and publish separately the most esteemed and indisputable books of that author. He had already made choice of them, and several were ready to appear, in both texts with notes, and various readings derived from the best authorities. But being obliged to yield to the pressing solicitations made to him on all sides, he determined to give the whole body of the known works of *Hippocrates*, and although the work was already pretty well advanced, there was still necessary for its completion seven years' toilsome researches, incessant vigilance and patience that nothing could overcome.

It was not before 1595, that this work appeared. It was printed at Frankfort on the Maine, under the title of *Hippocratis Opera omnia quæ extant*, in one volume, folio. *Foëz* dedicated it to Cardinal *Charles of Lorraine*, bishop of Metz, as an expression of respect for the benefits which his house had conferred on medicine and physicians. At the moment when *Foëz* was putting his great work to press, he received from Venice the Greek copy of *Aldus*, just published by the learned *Albert Lefevre;* and also the Greek edition which the advocate general Servin had prepared through *Froben*. *John Martin* too, a physician of Paris, sent him his own book of Commentaries and Observations. He profited by all these aids to perfect his undertaking. And it may be supposed that he had no need of having recourse to the translation made long before his own, by *Mark Fabius Calvo*, or *Calvus*, a physician of Ravenna, who died in 1527; an obscure, incorrect version, of which nothing is known but the manuscripts, although we are assured by *Manget* that it was printed.

In this collection of the Hippocratic writings are found some articles, which, not having been translated by Foëz himself, left an opening for envy to reproach him with having appropriated to himself the labours of others: this referred particularly to the Greek comments of *Palladius* on the book of fractures, which Dr. Peter Laphilee, of Paris,

had procured for *Foëz*, the companion of his childhood and of his studies; and which the latter had desired Doctor James Saint-Aubin, his colleague at Metz, to translate for him. Both of these were carefully published as a proof of the affectionate and sincere esteem which subsisted between them.

Foëz did not long survive the publication of his work, having died the same year, in the sixty-sixth of his age. The excess of his toil accelerated his end, and deprived him of the honourable old age to which he aspired. He was married, and left two children, of which the youngest, and his son, followed the profession of their fathers. The latter of these died in 1655; and shortly after, the family became so entirely extinct, that it would now be impossible to discover the humblest trace of it.

This celebrated physician was agreeable in his intercourse, and wholly to be depended upon. In his conversation, manner, behaviour, and all the exterior acts of his life, he scrupulously observed the precepts recommended by Hippocrates, his master and his model.

Foëz was about fifty-four years old when his children had a bust of him done from the life, in the alabaster dug from the quarries of Sanite-Barbe, near Metz. This bust was placed, after his death, in the chapel of our Lady of Loretto. But, though then so called, it has been since called the Chapel of *Foëz*, because it became the burial-place of the family. Curious travellers and scientific amateurs, particularly of the medical class, go there to visit it. In 1756, it was on the point of being destroyed in the demolitions ordered and executed by military authority, for enlarging the arsenal. Being the only thing saved, out of a multitude of respectable monuments, it was bought and preserved by a merchant, who always delighted to show it to any one who wished to behold the features of such an interesting man. He was, indeed, eager to confide it to an illustrious fellow-citizen, that there might be made from it, one of the eleven medallions with which it was proposed to adorn the City-Hall. *Anthony Lewis*, worthy of doing honour to great men, because he was one himself, rendered, in this case, solemn justice and homage to medicine; for he caused the likeness of *Foëz* to be placed among those of the men whose birth, life, and talents, had been the most honourable for the town of

Metz; that town which did not hesitate to add his own to the collection.

Busts of *Foëz*, in fine gypsum, may be had at this time of M. Bouralleau, suburb of Saint Anthony, in Paris.

Case of Hæmoptysis; to which are subjoined some Sketches respecting the use of Digitalis in Hæmorrhagic Affections. By Dr. Anson Smith, *of Kingston, in Upper Canada.*

IN the month of February, 1810, a young gentleman of this town, about 23 years of age, was attacked by an alarming pulmonary hæmorrhage, of which the following is a brief, but distinct account.

February 27. Lethargic indisposition; slight febrile symptoms; pulse about 70 in a minute, not full, nor hard; and free from cough or pain.

28th. Much as yesterday: Took cathartic pills, which produced two or three gentle evacuations in the course of the day; saliva to-day occasionally streaked with blood.

March 1st. The hæmorrhage commenced last evening at 10 o'clock, and recurred at 4 o'clock this morning; loss of blood comprised at both times about ℥xij. I saw him at 11 o'clock, A. M. and bled him twenty ounces. Hemorrhage at 2 o'clock, P. M. ℥vi. at 9 o'clock ℥xij. Pulse to-day very little increased, either in frequency or fulness.

2d. At 3 o'clock, A. M. hæmorrhage ℥vi. Pulse this morning full and strong, about 76. Venesection at 10 o'clock, A. M. ℥xvi. At 3 o'clock, P. M. hæmorrhage ℥v. and at 9 o'clock ℥vij.

3d. Hæmorrhage at 3 o'clock, A. M. ℥iij. at 7 o'clock ℥iij. Pulse at this time 110, and near deliquium animi. At 6 o'clock, P. M. hæmorrhage ℥ij. and pulse irregular at 80.

4th. The hæmoptysis ceased to-day; having only a small return, which seemed brought on by the exertion of passing the alvine excretions.

From the foregoing statement it will appear, that the loss of blood, by natural and artificial evacuations, during about sixty successive hours, amounted to more than ninety ounces. I omitted blending the means employed during the violent hæmoptysis, with its detail, as I thought its pro-

gress would be more conspicuously marked when unincumbered with other matter.

During, and until the violent hæmorrhagy ceased, the following means were employed, as thoroughly and unceasingly as the habit and system of the patient rendered admissible; to wit: diluted sulphuric and nitric acids, muriate of soda, and pulv. alum. compos. An extensive epispastic was, the second day, applied on the left side, reaching to the sternum; and cloths, wrung from cold iced water, were frequently applied between the shoulders, and down the spine of the back. The epispastic having shifted from its place, was re-applied, but did not fully vesicate the cuticle until the fourth day. I mention this circumstance, as the drawing of the blister was accompanied with abatement of the hæmoptysis, and a more tranquil state of the patient. Fully impressed with its efficacy, I much regretted deferring its application so long, and immediately applied another of equal magnitude on the other side. In compliance with counsel, about six ounces of the following julep or mixture was exhibited daily for about ten days, to wit: Aquæ hord. ℥viij. g. arabic ℥ss. æther. vit. ʒij. tinct. opii. ʒss. His regimen consisted of gruel, barley-water rendered thick with mucilage of g. arabic, lac. amyg. sago, and jellies, all taken cold, and his room kept without fire, and at a temperature near the freezing point. Apprehensive of the consequences of exertion, he strictly confined himself to his bed until the 18th March; although, for eight days before, his strength would have permitted him to rise. During this time he was affected with little fever, and without much cough or pain. His pulse, from the 4th to the 12th, was, at a medium, from 60 to 65, and, for the most part, regular. But there were daily occasional symptoms that indicated a return of the hæmoptysis. These were, a flushing of the face, and a peculiar sensation of heat across the chest; which, as they had always ushered in the hæmoptoic paroxysm, were considered as the immediate harbingers of its recurrence. Accompanied with these symptoms, there was a kind of jerking or throbbing of the pulse, so peculiar in itself, that I do not recollect witnessing any thing similar before. It might, perhaps, justly be called a hæmorrhagic pulse. Under such circumstances, I thought it expedient to try the effect of digitalis. Its high recommendation for moderating the action of the heart and ar-

terial system, and the little I had seen and experienced of its efficacy, seemed to indicate its exhibition, in the present case, as indispensable. Its success more than equalled my expectations. Its exhibition was in the form of finely levigated powder. The quantity and number of the doses given, and the comparative states of the pulse, before and after its use, will be seen from the following journal. Commencing,

March 12th.—9 o'clock, P. M. pulse in bed 60. Takes pulv. dig. 1 gr.

13th.—9 o'clock, A. M. pulse 52. Pulv. dig. 1 gr.—At 9 o'clock P. M. pulse 50. Pulv. dig. 1 gr.

14th.—9 o'clock, A. M. pulse 48. Omitted digitalis to-day, and took cathartic of sulph. sod. which produced in the night three or four copious stools; pulse at 9 o'clock, P. M. 60.

15th.—9 o'clock, A. M. pulse 50. Pulv. dig. 1 gr.—9 o'clock, P. M. pulse 48.

16th.—9 o'clock, A. M. pulse 50. Pulv. dig. 1½ gr.—9 o'clock, P. M. pulse 50.

17th.—Pulse and medicine as yesterday.

18th.—Sits up to-day eight hours—9 o'clock, P. M. pulse in bed 60. Medicine as before.

19th.—Epistaxis this morning 9 o'clock; pulse 73 in bed. Pulv. dig. 2 grs.—8 o'clock, P. M. pulse 65 standing, and 56 recumbent. Takes pulv. digitalis 2 grs.

20th.—Pulse to-day, in bed, from 52 to 48. Pulv. dig. two doses to-day ij grs. each.

21st.—7 o'clock, A. M. Dose of sulph. sod.—10 o'clock, A. M. pulse in bed 47, sitting up 60, and 75 standing.—9 o'clock, P. M. pulse in bed 50. Took two grains pulv. dig.

22d. } Took two grains pulv. digitalis three times in the
23d. } day. Pulse, when recumbent in bed, from 50 to
24th. } 47; sitting in chair 60, and when standing 75.

25th.—Pulse as yesterday: Digitalis omitted to-day.

26th.—Pulse in bed 60.

27th.—Pulse in bed 67. Takes 2 grs. digitalis three times in the day.

28th.—Copious natural alvine excretions to day, and when in erect posture, some nausea and giddiness; omitted the digitalis this and the three following days. The pulse in bed, during said time, from 58 to 42, and when out, from 75 to 52.

April 4th.—After to-day, rides abroad in a carriage dai-

ly, when the weather permits. The pulvis digitalis was used occasionally until the 20th April, when farther attendance on the patient was discontinued. In compliance with my advice to travel, as soon as health and strength would permit, my patient left home the last week in May, on a voyage across the lakes to the upper country. Communications from him, as late as 20th July, state that his health and strength are perfectly restored.

On the foregoing statement I have only to remark, that the difference of the pulse in an erect, or recumbent posture of the patient, while under the influence of the digitalis, is an object of attention, not merely of speculative curiosity, but of the utmost importance to direct the practitioner in its exhibition. And I have here, in justice to acknowledge, that I was incited to a critical observance of these circumstances, in my treatment of the above case, from hints and remarks afforded me in a recent communication of Dr. Boildon, of London, inserted in the Edinburgh Medical and Surgical Journal, 1807. It is with much pleasure I make this mention of the remarks of Dr. B. on the use of the digitalis purpurea, as they appear to be the result of correct experiment, and to furnish a criterion for the due application of the most powerful remedy, in various disorders, with which we are acquainted.

TOPOGRAPHY *of* SOUTH-KINGSTON, *in* WASHINGTON *County*, RHODE-ISLAND. *By Dr. Joseph Comstock.*

To the Editors of the Medical Repository.

GENTLEMEN,

IF the following description of the place in which I at present reside, should be thought worthy of insertion in your very useful and entertaining Repository, the design for which it was written, will be answered. With my fervent wishes for your health, and the uninterrupted continuance of your useful labours,

I am yours, respectfully,
JOSEPH COMSTOCK.

South Kingston, Jan. 4th, 1810.

Doctors Mitchill and Miller.

SOUTH-KINGSTON is bounded easterly by Narraganset Bay, and southerly by the Atlantic Ocean. It is a principal part of that tract of country still known by the aboriginal name of *Narraganset.* The land, especially on the sea coast, and near the above bay, is extremely fertile and productive.

The crops have not been materially shortened by drought or frost for ten years past, which, I believe, to be a singular, if not unparalleled circumstance in most other towns in New-England. The soil is a deep and rich loam, with very little sand and gravel in its composition; from which circumstance it bears the drought admirably: Its exemption from early frost, may be accounted for from its contiguity to the sea and bay. There is not, perhaps, a better soil for grazing in the United States.

Cheese is the staple commodity; although pork, beef, Indian corn, butter and veal, are produced in rich profusion.

The southern, or rather south-eastern extremity of this town, ends in a point of land, well known to mariners, called Point-Judith, upon which a light-house has been this year erected. Fifteen miles S. W. of this point is Block-Island. From similarity in the make of the land of this island and point, one would be led to conjecture that they once joined. Peat or turf, it is known, is the only fuel of the inhabitants of that island; it is also found on this point. Were I to add another supposition, as to the part of the continent which Long-Island once joined, it would be, that Montauk-Point joined Block-Island, which is only 19 miles distant, and the latter Point-Judith. It might also, as Dr. Mitchill conjectures, have joined Stonington, or Westerly, and the junction have been continuous to this place.

The court-house of Washington county stands on a high and pleasant hill, in the north part of the town, about twelve miles N. N. W. from the extremity of Point-Judith, and six miles west of Narraganset bay. This place, known by the name of *Little-Rest-Hill*, is a compact little village of 25 dwelling-houses, and 178 inhabitants. *Tower-Hill*, in the same town, is a still less village, situated four miles S. E. of the above, but its situation and commanding prospect render it very pleasant. It was formerly the site of the court-house for this county. In both these villages

post-offices are established. About one and an half miles north of Tower-Hill, is M'Sparran-Hill, which is, in fact, a continuation of it, but more elevated. From this spot, in fine weather, with the help of a glass, a part of three adjacent States may be seen, viz. Montauk-Point, in the State of New-York, bearing S. W. distant between 40 and 50 miles; a part of the Elizabeth Islands, in the State of Massachusetts, about the same distance E. S. E.; and a part of Windham county, in the State of Connecticut, may be seen with the naked eye, distant, perhaps, 30 or 40 miles N. W. It is also supposed to include a prospect of part of every county in this State. It is said that a British officer, in the time of the revolution, visited this spot, and thought it superior to any other he had seen for the beauty and extent of the prospect it afforded.

The township is about eleven miles wide, from east to west, and from the northern boundary-line, to Point-Judith light-house, is 14 or 15 miles; but this distance does not hold the whole width of the town.

WATERS. *Narraganset bay* is one of the finest in the United States, extending 30 miles into the country; but as most of the sea-port towns in the State are situated thereon, a particular account of it belongs more properly to a description of the State, especially as this is not a commercial, but agricultural town. *Pettaquamscut*, or *Narrow River*, one mile west of the above bay, seems by nature designed for the particular accommodation of the finny creation, as it communicates with the ocean below, and heads in two spacious ponds above. The fish find an easy entrance from the sea into these ponds, and large quantities of bass, perch, &c. take up their winter quarters there. In their passage, both in and out, and during their stay, many are taken with hooks, nets, and seines. The uppermost of these ponds is in the town of North Kingston, and near the shore of it, in a small house, Major-General Whalley, one of King Charles' Judges, and who signed the death-warrant of that monarch, is supposed to have taken up his secreted residence for a considerable length of time.* His descendants, of the same name, are among the lower class of inhabitants here.

* See President Stiles' History of King Charles' Judges.

Point-Judith Pond is a considerable collection of water lying close to the sea, with which it communicates by an outlet or breach through the sand-bank of the beach. Through this outlet the tide flows into the pond, and the waters of the Saucatucket river, which empties into the pond, are transmitted into the sea. This pond is of a very irregular shape, abounding with islands. The largest contains ninety acres, and constitutes a farm of good land, on which is a farm-house and other buildings. In this pond bass are caught, weighing from two to forty pounds, perch, smelts, eels, shoals of herring, and some oysters. So that, from this pond, and the river and ponds above mentioned, the inhabitants are abundantly supplied with fish, some of which are carried 20 or 30 miles into the country, and a surplus, both fresh and salted, sold in the markets of Newport and Providence.

Narraganset bay, and the Atlantic upon this coast, are also peculiarly well stored with piscatory inhabitants. There is a large kind of bass, some of which weigh 60 pounds, caught from the sea, which are excellent. They are a fish of passage, and are taken chiefly in the spring with hooks and lines, the fishermen standing on certain rocks on the shore. But fish, although plentiful, are less abundant than formerly; one species of which, known by the name of *horse-mackarel*, disappeared entirely during our revolutionary war. Some people attributed this singular occurrence to their being frightened by the noise of the guns of the French fleet, and English ships of war, which at that period visited our coast. But I am informed that immense quantities of this kind of fish were driven ashore, somewhere upon the coast of Massachusetts or Maine, during a severe storm: probably the same which did so much damage to the French fleet. That the species were thus extinguished, is to me more probable than that they were frightened away, never to return. Some excellent trout are taken from the fresh rivers, and brooks in this town.

In the west part of the town are a number of natural fresh ponds, mostly small and deep: one, however, is an exception; it is large, but so extremely shallow that I am informed waggons have been driven quite through the middle of it; a distance of more than two miles. This pond, which receives a number of small streams, lies within a lit-

tle distance of the sea shore; but, instead of paying the tribute of its redundant waters directly to the common receptacle, the river *Pawcatuck*, which rises out of it, takes a circuitous route of 30 or 40 miles, and being joined by other streams, empties into the sea between Stonington, in Connecticut, and Westerly, helping to form the boundary-line between the two states.

Adjoining the above pond is a very large cedar-swamp; in the northerly part of which is a piece of dry land surrounded by swamp. This spot, which is nine miles west of the south ferry, that goes over Narraganset bay toward Newport, and three miles west of the court-house, was rendered famous in the Indian war, commonly called Philip's war, from the noted Mount-Hope Sachem of that name. "Here the Indians collected stores, and built the strongest fort they ever had in this country. A circle of palisadoes was surrounded by a fence of trees, a rod in thickness. The entrance was on a long tree over the water, so that only one person could enter at a time. This was guarded in such a manner, that every attempt to enter would have been fatal. A vulnerable spot was, however, discovered by an Indian prisoner.

"This fort was attacked in the night of the 19th of December, 1674, by General Winslow, with 1500 men from Massachusetts, and 300 from Connecticut, with 150 Indians. The fort was supposed to contain 4000 hostile Indians. The scale of victory hung sometime doubtful. Six brave captains fell, and 80 men were killed, or mortally wounded. In this awful crisis, some of the Connecticut men, who were in the rear, ran round the opposite side, where was a narrow place destitute of palisadoes; they leaped over the fence of trees, and fell on the rear of the enemy. This decided the contest. They were totally routed. The natives never recovered the loss of this day. Their wigwams being burned, and their provisions destroyed."*

Narraganset is a very healthful tract of country. Even those who live in the vicinity of this swamp, have hitherto escaped intermittents, or any prevailing sickness. There is generally neither epidemic nor endemic disorder amongst the inhabitants, ebriety among the lower class excepted.

This healthfulness was remarked formerly by the natives

* See Morse and Parish's Hist. of New-England.

living more northerly, as appears by the following passage, from the work above quoted.

"The Narragansets were distinguished for their sacrifices. They had a spacious temple, and stated times for their public assemblies: a fire was kindled in the temple, into which the Powaks cast the most valuable riches of the people, voluntarily brought by them, as skins, beads, hatchets, and knives. The Indians north, though not disposed to imitate their example, admired this supposed piety, imagining it the reason that the plague or yellow fever had not raged there, which had depopulated their country."

The healthfulness of this town cannot be referred, in modern times, to the cause formerly assigned by the Indians; there being fewer churches, and less attention paid to religious concerns, than in any other part of New-England.

The observation, that "the more nature does for any community, the less are they disposed to do for themselves," is here amply verified. The means of subsistence being easily acquired, has rendered the people less industrious and enterprising, than in most other places.

There were formerly a great number of negro slaves, owned by the farmers of this town, who did the principal part of the labour. People consequently neglected bringing up their children to industry, and this neglect has continued, although slavery has nearly ceased.

Party spirit has always run universally high here, making "shipwreck of the state," in which "trifles float, and are preserved; while every thing solid and valuable sinks to the bottom, and is lost for ever." In other words, idle, vicious persons, meet with patronage from partisans, for no other reason than because they are voters, whilst persons of real worth and merit, who do not take an active part in party disputes, are neglected.

These, with other causes, have kept the inhabitants at least thirty years behind their neighbours, in Connecticut and Massachusetts, in the erection of churches, schoolhouses, and every species of useful and ornamental improvement.

To the inhabitants, however, is due the praise of great benevolence and generosity. To persons in distress, the hand of liberality is never *sparingly* extended.

Notwithstanding the general healthfulness of Narragansett, we had a malignant fever at and near Little-Rest Hill,

in 1804, attended with some peculiar and singular features, which may possibly be made the subject of a future communication.

December, 1809.

An Exhibition of Facts to show the Efficacy of the Plant SCULLCAP, *(Scutellaria galericulata Lin.) in preventing the Disease consequent upon the bite of a mad Dog, or other rabid animal. In a Letter from* ROBERT BOWNE, *of New-York, to* WILLIAM DEAN, *of Salem, dated 9th Mo. 8th*, 1809.

[Though the substance of this Letter was printed about a year ago, yet, as it has been re-touched by the benevolent writer, and is now accompanied by an engraving, we give it a place among our original articles.—*Editors.*]

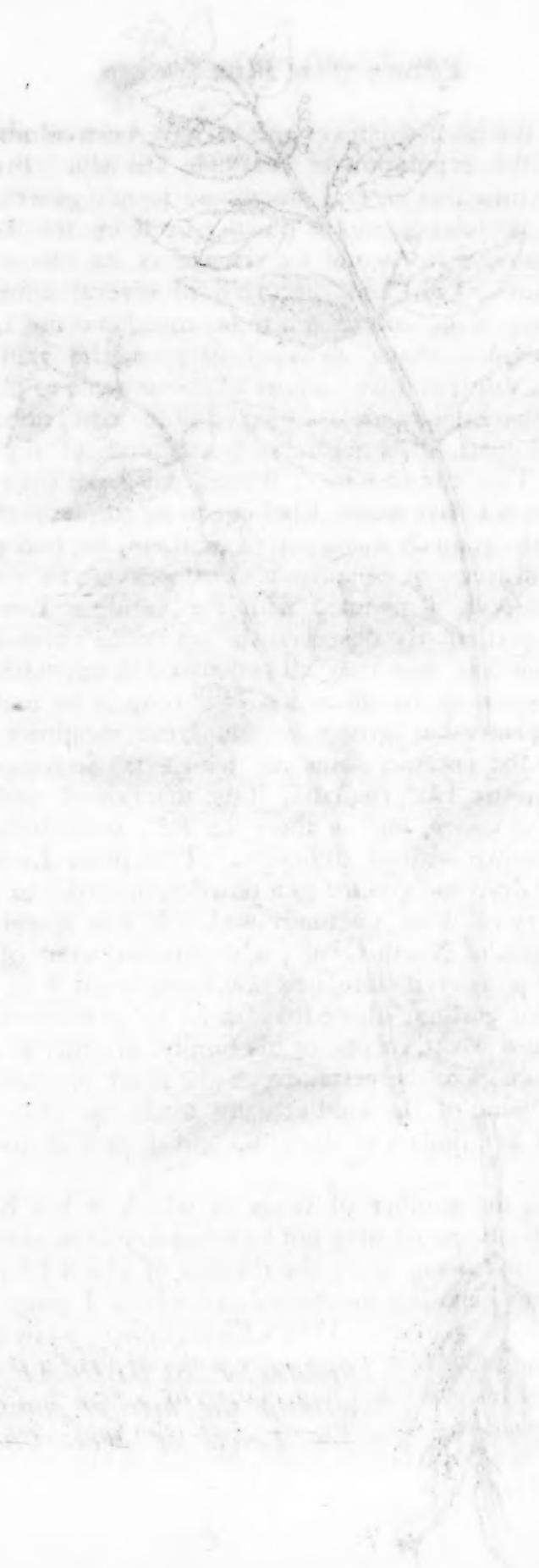
RESPECTED FRIEND,

HAVING observed in the Evening Post, of the 4th instant, a communication taken from a Salem paper of the 1st, respecting a mad dog which made his appearance in Havrehill, and bit several persons in that neighbourhood, I conceive it of importance to make known what I believe to be a specific preventive of the canine madness, and a certain antidote against the poison by which it is produced.

The remedy to which I allude, has been made use of with great success, by a poor man of the name of Lewis, a resident of West-Chester county, in this state. It was known to his father many years since, and kept a secret in the family for a very considerable time. Whenever a mad dog appeared in the neighbourhood of Mamaroneck, or the Purchase, and bit either man or beast, it had long been the custom, previous to the secret being made public, to send for Lewis, or his father, who, from long experience, it was well known, would, by administering a single powder, destroy with certainty the poison, and effectually secure the animal or person that had been bitten.

It has too often happened that dogs, supposed to be mad, but not actually so, have bitten persons, to whom reputed preventives have been given, and no ill consequences result-

Species of SCULL-CAP used for curing the bite of mad dogs, by —— Lewis of West-Chester.



ing from the bite, whatever might have been administered obtained the reputation of infallible efficacy. From the failure of these, in several instances, people generally had but little confidence in the powder used by the Lewises, until convinced by actual experience of its efficacy. Instances have, I am told, occurred of several animals being bitten by dogs considered to be mad, and the Lewises, when applied to, have, in order to prove the value of the medicine, requested the owners of the animals to place one apart; which being done, they saved all the rest; and the one so placed apart, died with every symptom of the hydrophobia. This circumstance, if true, and from the result of the inquiries I have made, I believe to be so, places the character of the remedy made use of by them, beyond a doubt. I have had frequent opportunities of speaking to a number of persons well acquainted with the younger Lewis, and who had particularly observed the course he pursued in various instances; and they all concurred in expressing their full conviction of its efficacy. The remedy he makes use of is a plant that grows in the fresh meadows of our country; the botanic name of which is *Scutellaria.* In the Domestic Encyclopedia, it is mentioned under the name of *Scullcap*, and is there so fully described, that it may be known without difficulty. This plant Lewis used to gather dry, and reduce to a powder, in order to prevent a discovery of what it actually was. It was found out by John Ferris, of North-Castle, who obtained some of it from him, in a powdered state, and observing seeds in it, planted them in his garden, where they came to perfection: since then, James Mott, or one of his family, in order to remove every doubt as to the certainty of the plant produced from the seed being of the kind actually made use of by Lewis, gave him five dollars to show it, and it proved to be the same.

Among the number of cases in which it has been applied with success, it may not be necessary to mention more than the following one; the relation of which I had from the persons hereafter mentioned, of whom I purposely inquired the particulars. Uriah Field, father-in-law to Richard Mott, had a few years since some of his family, and a number of his cows and hogs, bitten by a mad dog. Being fully satisfied that the dog was mad, he sent immediately for Lewis, who, when he came, furnished him with a quan-

tity of the powder before described, and directed him to make a tea of it, and give it to the animals two days in succession, in any mess they were fond of, and, on the day intervening, a small proportion of brimstone. This course was adopted, and continued for three or four weeks. It happened that, before the termination of that period, he disposed of one of the cows to a neighbour, who knew it had been bitten: he gave him some of the powder, with directions not to fail administering it to the creature; this, however, through carelessness, was neglected; and the consequence was that it went mad and died, while all the others continued perfectly well.

About two ounces of the herb, when reduced to powder, and divided into several portions, is sufficient to secure man or beast, if administered in time. I cannot learn with certainty, whether if not given until the hydrophobia commences, it will have the desired effect. It is difficult, if not wholly impossible, when the disorder has arisen to a height that indicates its nature, to induce the patient to take any kind of liquid whatever: indeed, in most cases, when it is presented to them, they are seized with violent spasms, and fall backwards, strongly convulsed. To attempt forcing them, in that state, to receive it, is attended with great danger. I am credibly informed that a man in New-Jersey, endeavouring to give a drench to a cow which shewed strong symptoms of the hydrophobia, died from the poison communicated by the saliva of the animal falling on a wound he some time previously had received in his hand. It is therefore best to administer it as early as possible; though it has, in some instances, been deferred until the patient has shewn signs of illness, and then effected a cure. In cases of this nature, the decoction of the herb should be given stronger than in others.

In the instances which have come to my knowledge of animals, bitten by mad dogs, the period between the time they were bitten, and the commencement of the hydrophobia, varied very considerably: in some, the effect of the poison was discernible in a few days, and in others, not under two or three months.

Perhaps thou mayst have some difficulty in obtaining a copy of the Encyclopedia, to which I have referred, for an account of the plant. The following description will pro-

bably enable thee to discover it, if growing in your neighbourhood.

It is perennial, and flowers about the middle or latter part of summer; its stem is square; the leaves come out opposite each other, and the seed-stem is within the leaf; it bears a small violet-coloured blossom, and grows from one to three feet high, according to the richness of the soil.

I am informed by a person acquainted with the family of the Lewises, that the old man came to the knowledge of this remedy by being bit by a mad dog, and hearing of an old German, who was famous for counteracting the effect of poison, he applied to him, and by his assistance escaped the danger he had incurred; and obtained from him, in confidence, the secret of the means by which his security was effected.

Thou mayst be fully assured, that every circumstance which I have stated, respecting this remedy, I have the greatest confidence is correct. My information has been derived from the most respectable sources; from persons of probity, who were eye-witnesses of the facts which they related; and I have no doubt, but that, in a very short time, I could collect more than one hundred instances of security, effected by the Lewises, since the remedy came to their knowledge. My confidence in the virtue of this herb is so great, that if bitten, I would trust my life to it, rather than to the skill of all the physicians in this city. Indeed, generally speaking, they are, I believe, honest enough to confess that they know of no remedy for the disease communicated by the bite of a mad dog.

Shouldst thou be inclined to make public any part of this letter, make such extracts from it as thou mayst judge proper, not unnecessarily mentioning the names of the persons I have referred to, as I insert them merely from the expectation that thy knowledge of them would give thee greater confidence in what I have stated.

The reluctance which I have in common with many others to appearing in print, has heretofore prevented me from making public the information contained in this letter.

It is with me a subject of very great regret, that most professional men are unwilling to test the efficacy of simples, the reputation of which has not been long established. They should recollect, that some of the most powerful medicines of the shops are produced from vegetables, the ap-

pearances of which do not indicate more virtues than the Scullcap.

I should make an apology for troubling thee with this letter, but being well acquainted with thy benevolent disposition, I am confident thou wilt receive, with pleasure, any information that can enable thee to benefit, even in the smallest degree, any of thy fellow-creatures.

I remain thy assured Friend, R. B.

Attestation by the Editor of the Evening Post.

"I am not in the habit of republishing what are called Quack Remedies, but I republish the foregoing because I know Mr. Lewis, the person spoken of, and have been witness to some of his cures, for cures they undoubtedly were. I am glad the public are now in possession of the secret, but I am sorry the poor man has not been, to any adequate degree, remunerated for it.

"Evening Post, Friday, Sept. 22, 1809."

Additional Information concerning the preventive efficacy of the Scullcap, communicated by Mr. R. Bowne, to the Editors.

New-York, 12th Mo. 15th, 1810.

AS you are desirous to publish in your useful work some account of the Scutellaria, or Scullcap, and have requested of me the copy of a letter I wrote a friend of mine at Salem, (an extract of which appeared in several papers,) I now inclose you the same, with the testimony of William Coleman attached thereto, as inserted in the Evening Post. In addition to what was then communicated to the public, the following may be added.

Samuel Wilson, a very respectable farmer, living near Croton River, West-Chester county, assures me that about twelve years ago several of his creatures were bitten by a mad dog; at the same time his neighbour, Daniel Underhill, had 2 hogs, Nathaniel Smith 1 cow, and Edward Mead 5 hogs bitten; all of which died of hydrophobia, except the hogs belonging to Mead, who sent immediately to Lewis (having faith in his prescription) and got a quantity of Scullcap, and administered it to them agreeably to Lewis's direction, by which means he saved their lives.

Colonel Rutgers, of this city, has informed me that he had one of his family bit by a mad dog about seven years ago. One evening, the person alluded to, hearing a noise in the yard, went to the door with a view of ascertaining the cause, when a strange dog instantly attacked him, and inflicted a wound in his face. Colonel Rutgers sent immediately for Lewis, who came down and staid with the person eight or ten days; during which time he caused his patient to take some of the Scullcap-tea, each morning, fasting, and left directions for his medicine to be taken in the same manner for several weeks.

The Colonel rewarded Lewis generously for his services, and the person continues well. One of the Colonel's dogs was also bitten at the same time, which soon after disappeared, and has not been heard of since; a strong evidence that the strange dog was actually mad.

An unusual number of dogs went mad the last season, in various parts of the country; and frequently hearing that Dr. Vandeveer, a physician of eminence in New-Jersey, who lives on the Rariton, near Somerset old court-house, was in the habit, and had been for many years, of administering to persons bitten by mad dogs, with the tea of a certain herb, I was desirous to ascertain whether it was the same as that made use of by Lewis. For this purpose I went over to Rahway, and the result of my researches was, that the herb Dr. V. makes use of is precisely the same as that prescribed by Lewis, which I clearly ascertained by comparing it with a drawing of the Scutellaria I had with me. While there, I saw and conversed with Jacob Vail, a respectable farmer in that neighbourhood, whose dog went mad this fall, and he endeavouring to kill him received some injury. Alarmed at the circumstance, he went to Dr. Vandeveer, and received from him a handful of dried herbs, with directions to make tea of it, and drink the same every morning fasting, for twelve or fifteen days, and to refrain from strong liquors, and every thing of an inflammatory nature. Another person I met with there observed, that several years since he was very severely bitten in the hand by a dog, undoubtedly mad. He went immediately to Dr. V.'s, and received from him a handful of herbs, with the same directions as given to friend Vail. From that period he has not felt the smallest inconvenience from the wound, further than any other of an ordinary nature would have produced.

I am informed the Doctor is averse to making any disclosure relative to the herb in question; but declares that his sons are in possession of the secret, and, after him, will continue the use of it whenever called upon. He asserts, that during his practice he has prevented upwards of 300 persons from going mad, and that he never lost but one patient, to whom his medicine had been administered. In this instance he was called upon to prescribe to a young woman living near Rahway, who had been previously under the care of a physician in that town; but the disease had so far progressed before he gave her his medicine as, in his opinion, to baffle human aid.

The confidence of the people of the neighbourhood, where Lewis resides, in the efficacy of his medicine, is very great; and a member from that county, about six years ago, made a motion in Congress for purchasing his secret from him for public benefit.

Lewis and Dr. Vandeveer keep considerable quantities of this herb well dried, and collected at a proper season. Two or three ounces are sufficient, in common cases, without the aid of any other medicine.

R. B.

An Inquiry into the Nature and Cause of the Autumnal Epidemic Diseases which prevail in North-America: By Dr. IGNATIUS ROMER, *of Middletown, Dauphin county, (Pennsylvania.)*

SIR,

I am one of the many who highly esteem your valuable publication, as very beneficial to the country and to mankind in general. I send you a paper which has been laying a number of years in my scrutoire. You may dispose of it as you please. Let us hear and examine all things.

IGNACE ROMER.

Middletown, (Pennsy.) June 20th, 1808.

To Dr. MITCHILL.

SOMETHING that is undoubtedly present at the time of these diseases, and is fully sufficient and adequate to

produce such an effect, namely, those diseases in question, may, with perfect propriety, be considered as the efficient and immediate cause of the same. But I think, by a due and attentive consideration of our fall seasons, such a cause may be found out. Hence it will become us to take a due consideration of these seasons, and all their circumstances, as a true knowledge of the cause will afford us the most favourable prospect towards the useful remedies, as well for cure as prevention. Without having attained to this knowledge, we are groping in the dark; all practice is empirical, and its success precarious.

The question seems to me entirely, or at least mostly, to depend on a solution upon principle of two other questions, viz.

1. What is the effect of a hot season upon the animal, in particular upon the human body?

2. What will be the effect upon the same if a hot season is about to be exchanged for a cooler one?

A thorough acquaintance with these effects, I trust, would enable us to pronounce, with great assurance on the matter in question, the efficient and immediate cause of our fall diseases.

I confidently believe, that the real and principal cause of them consists wholly in great heat, and its subsequent desultory and irregular alternation with cooler weather.

What is the effect of these powerful causes, heat and cold, and their changes, especially their irregular alternations upon the human body; that is, upon all its solid and fluid parts, all its circulating, secerning, and excerning systems, and especially upon its moving powers, the nerves, and nervous system, as well as the muscular system? Let any one, with true philosophical perspicacity, answer this question, and we shall no longer be ignorant of the cause of our fall diseases; no longer lay the whole blame upon such things as only are or may be aggravating circumstances.

Concerning the symptoms of our fall diseases in general, I take it for granted among physicians, that the most constant, and the most clearly and visibly apparent, are these:

1. There is always a great load of various sordes, bile, slime, &c. in the intestinal canal and stomach; and probably all the other systems, like the gastric, are loaded a great deal, as it is well known, that what is evacuated on such occasions hath not been solely the contents of the intestinal canal, but by the evacuant and stimulating medicines, or the

efforts of nature, hath been drawn, and is drawn under such operations from many other systems of the body, especially the blood and lymphatic system to the intestinal canal, emptied into it by various ducts, and thence carried, with the other excrements, out of the body.

2. There is always a great fever, and let it be either of the typhus or the synochus kind, at length there is always discovered great debility. The fever is commonly accompanied with a considerable disorder of the nervous system, very often with convulsions, and sometimes with a frequent, or nearly a continual vomiting, which I take to be a convulsive state of the stomach.

3. The time these diseases rage, is the time when the nights begin to lengthen, and follow, oftentimes, very hot and sultry days, until a cooler season is pretty well established, which is commonly ushered in, and somewhat settled, by heavy, cool showers. These showers are exchanged soon again for hot and sultry days, in which case there hath commonly been but some interruption, and not a ceasing of the disease.

These are the most common, visible, and undeniable circumstances of these diseases. More or less mortality; more or less duration of the diseases; more or less suddenness of deaths; more or less of this or that particular symptom, black vomiting, for example, yellowness of skin, eruptions of various kinds, &c. &c. I consider all these as things merely accidental, and not at all changing the nature and essence of the disease.

Now these symptoms, I think, have their full and adequate cause and explanation, in the common and necessary effects of great and irregular exchanges of hot and cold seasons upon the human body. I shall explain them at some length, but as concisely as I can.

By a hot atmosphere I understand an atmosphere heated a good many degrees higher than is agreeable to the feelings of a healthy person. The most general effect of heat upon any body is, that it tends to separate and disjoin the constituent particles of the body, and so to break it into very minute, and scarcely sensible particles, either in the form of a liquid matter, if there is kept up a sufficient quantity of fluids, or in the form of a dry powder, or ashes, if the fluid parts are allowed to disperse. The fluids, and along with them the greatest part of the solids, fly away in the

form of a vapour, being volatilised and partly appearing as an exhalation. This is the well-known effect of heat upon any part of the animal body, when, destitute of life, it is exposed to its action in a boiling pot, in Papin's digester, or in the open flames, or upon a roasting-iron. The living body cannot undergo the action of heat in such a high degree, without the destruction of life; but in the lower degrees of heat, which it may undergo without the destruction of life, heat possesses and certainly exerts its power with a *tendency* to produce the same effects; that is, hath a tendency to rarify, to separate, disunite, disjoin, and hence to debilitate the solids, by loosening the firmness of their texture, and predisposing them to an entire dissolution, and to thin and dissipate the fluids, and with the fluids many of the solid parts, making a motley, very heterogeneous mass, evaporating either outwardly into the free air, if this is in a capacity to receive it, or inwardly into the various cells and cavities of the body, whence they will be partly excreted by the various excretory ducts, partly reimbibed by the absorbent system, as long as all the motions proceed orderly; but in case of supervening languor, may well stagnate here and there, thicken and variously incumber and burden the parts they are cast upon, and not only burden, but prove hurtful in various other ways, agreeably to their more or less noxious qualities. Hence, without any doubt or hesitation, we may affirm, *that a very hot atmosphere debilitates the solids, and dissipates the fluids of the body.*

It is also well known, that to the living principle it proves a *powerful stimulus* in exciting to action and exertion, as long as it is within such bounds, that life is not overcome thereby entirely, and destroyed. This is a thing of common and daily experience, and as indubitable as the former. Hence we might calculate, as it were, a priori, the effect of such a cause operating for a length of time upon the living human body.

By such high stimulus the movement of all the liquids in circulation will be lively; the torrent will run rapidly if the vessels have firmness enough to bear the strong stimulus without injury. In a high degree this will be the inflammatory diathesis. If the vessels are of too loose a texture, and not able to support, and answer by a due degree of reaction the impulse of the high stimulus, inability and languor will be the prevailing diathesis.

A considerable degree of external heat, coming on by degrees, can be borne by the human body, without running into sickness; as it is well known, that a man born far to the north, can be brought to live safely even under the equator; though the experiment hath cost many a one's life, yet, conducted with discretion, the human body is able to stand it. But, however destruction may be prevented, yet heat hath still the same tendency to dissolution. But as long as it is proceeding uniformly, and increasing by moderate degrees, the system may be able to accommodate itself so as to bear this increase at length to a very high degree; just as plants can bear great degrees of heat in hot-houses, and in the open air, if used to them gradually, which might have killed them all at once, if in a cold temperature, they had been exposed to them suddenly. So we find that as long as by slow variations the nervous system is not much deranged, the system may stand its ground without perceptible sickness, though it may already be inclined and predisposed to sickness. Sudden changes are always dangerous; and this the more so, the greater and the more sudden the change is. These facts are all well known.

One of the next and most visible and probable results of the operation of external heat upon the solids, and fluids will be a proportionate increase of perspiration, and even sometimes profuse sweats, which are not made up of pure water, but have among their contents various saline, oily, or earthy parts, as may easily be discovered by smell and taste. The sweat of sick persons, and frequently of persons in apparent good health is often exceedingly nauseous, and fœtid; very often of a certain determined taint in certain diseases, as in the small-pox, &c. Very often, and generally in some, the sweats are viscid, and clammy; probably being loaded with the coagulable lymph, and adhering to the skin, and if not washed off either by subsequent sweats, or water, apt to obstruct the pores, and to incrust the skin.

What operation heat hath upon the absorbent system, is not equally well known. Probably the general higher stimulus increases the action of the absorbing vessels also. Hence every drop of fluid is licked up every where, and the liquid effusion is imbibed from every cavity of the body greedily. Hence the sense of thirst, as there is yet more excreted than the absorbents can supply.

The nervous system is apt so to be habituated to the stimulus, that after a while this high degree of it proves no more extraordinarily stimulating, but is only sufficient to support the functions of life with the common force and vigour ; so that what formerly was a stimulus sufficient for the support of the same, now becomes quite insufficient, and will at present occasion uneasiness, and languor ; perhaps more sensibly in some part of the system than in others. This natural property of the nervous system is well known. By the frequent and daily use of opium and other narcotics, they lose their medicinal power, so that in a length of time half an ounce may be requisite to produce the same effect, which at first was produced by a grain. Hence drunkards are formed, as they find it necessary to add to the former dose, to produce the same effect of alacrity and exhilaration, which to produce formerly, a small dose was sufficient.

A hot and sultry atmosphere makes respiration difficult, and creates a sense of heaviness, as it seems such an air doth not so well expand the lungs as to open the way wide enough for the transmission of the blood through them. Other peculiar effects, except such as are common to all the other solids, do not appear in the pulmonary system ; and it doth accommodate itself to the higher degrees of heat, if brought on gradually, as well as any other.

One of the ordinary effects of the great stimulus of heat would, I suppose, be what by pathologists is called *error loci*. The respective relaxation of the solids, and the fierce agitation of the fluids must needs occasion oftentimes an aberration and intrusion of the thicker fluids into the smaller vessels, which in a healthy state are not capacitated for their reception. Hence may be occasioned stagnations, if the impulse from behind should be lessened in considerable degree, and the result thereof would be infarction of these small vessels to some extent, if the cessation of the strong impulse should continue, or go on to increase.

The biliary system will share the fate of other secretions, the secretion being increased, by the higher stimulus ; but if the excretion proportionally is increased also, there will be not much alteration from a healthy state. But if the excretion for a while, for any cause whatever, should be lessened, gall might be laid up in considerable abundance ; and under higher degrees of obstruction of the excretory ducts, the whole system might be considerably tainted by it.

The effects of great heat upon the human body considered thus far, may suffice to form a right judgment about what will happen, if the great heat is now about to be changed for a cooler season. This is the proper time of our fall diseases. But before we proceed farther, I shall make some remarks upon *spasm, convulsion*, and *fever* in general.

A contraction of a living part, with a subsequent relaxation, is denominated a *clonic convulsion*; if the contraction continues a length of time without being exchanged by relaxation, it is a *tonic convulsion*, otherwise called *spasm*. A continuance of such alternate contractions and relaxations is called the convulsive state of the part, or parts thus affected; if the contraction is not followed by relaxations, it is a spastic, or spasmodic state. It is supposed in general, that all spasms and convulsions originate in the nerves, or nervous system, and that only the fleshy parts, or the muscular fibre is liable to be affected thus. Upon any irritation whatever, the nerve is never seen to contract, though upon an irritation of the nerve the muscle or muscles are always contracted, and commonly relaxed again; and so if the muscle itself is irritated, the consequence is contraction and relaxation through all its fibres, oftentimes continued for some time.

(To be continued.)

Funeral Ceremonies in honour of Professor FOURCROY. *Translated for the Medical Repository, from the Bulletin de la Societé de Medicine, &c.* 1809, No. X. p. 173, and seq.

THE medical faculty was yet deploring the loss of several of its professors, when a new subject of affliction was added to the mass of regrets, so profound and so recent. *Count Fourcroy* died suddenly on the morning of the 16th December, 1809, of an apoplectic fit.

In losing Messrs. *Lassus*, *Leclerc*, and *Cabanis*, the faculty had been deprived of distinguished worthies, and of three of its firmest supporters; but death, in the person of *Fourcroy*, has torn from them a professor of extraordinary merit, and the individual to whom it is indebted for its re-establishment. It is to the personal consideration which he

enjoyed, and the ascendancy of his genius, that we owe the decree, which, in the disastrous times of the revolution, founded this very School of Physic upon the ruins of the old faculty of the Society of Medicine, and of the College and Academy of Surgery. It was he, who so well knew how to appreciate talents, who composed it of men the best qualified to execute functions as honourable as they were difficult.

At this distressing intelligence, all the colleagues of Fourcroy in the faculty, were impressed with lively grief; grief the more affecting, in as much as all of them were attached to him by the bonds of friendship or of gratitude. The faculty held an extraordinary meeting on the 21st December 1809, and resolved to testify, by a public mourning and by a durable monument, raised at the expense of the professors to his memory, their regret for the loss of this their illustrious colleague, and their gratitude for the services he had done them. In consequence of which the following resolutions were passed.

I. The mace carried by the beadle of the faculty, on solemn and ceremonious occasions, shall, for six weeks, remain dressed in black crape, in token of mourning.

II. The bust of Count Fourcroy shall be exposed during the whole of the present scholar-year, (opening of the schools,) in the amphitheatre of the school, as the most ostensible place. A Latin inscription shall recount the services he performed, in organizing anew the present establishments.

III. The faculty shall cause to be executed, at the expence of the professors, out of statuary marble, a bust of professor Fourcroy.

IV. These proceedings shall be communicated to the professors who have not been able to assist at this day's sitting.

V. A deputation of the faculty, composed of the members of the council of administration, shall carry to her ladyship, the Countess, widow *Fourcroy*, the present proceedings: Signed by THOURET, Dean; BAUDELOCQUE, President; and DES GENETTES, Secretary.

On the 23d December, at noon, the committee consisting of Messrs. *Thouret*, *Sue*, *Chaussier*, *de Jussieu*, and *Des Genettes*, waited upon the Countess Fourcroy, pursuant to the foregoing resolve.

The funeral ceremony took place on the 20th, with the solemnities and honours due to the deceased. Several ministers of state, a great number of the members of the state-council; masters of requests; auditors; the municipality of Paris; several members of the legislative body and of the courts of justice; a deputation from the imperial university; deputations from the institute of France and from the museum of natural history; the professors of the faculty of medicine, of the Schools of Pharmacy, Polytechnic and Mines, as well as from various other Schools and Lyceums, a numerous concourse of men of science, men of letters and artists attached to the memory of Fourcroy from a recollection of his useful labours, and the greatest number from a sentiment of gratitude for his personal services, accompanied the procession, escorted by detachments of troops of the line, the Polytechnic School under arms, and the croud of pupils belonging to the School of Medicine.

Several persons pronounced discourses at the tomb of Count Fourcroy, and paid to his memory the eulogies, so justly due for his immense labours and for his important services.

The minister of state, *Count D'Angely*, took the lead in the name of the council of state. Next followed Mr. *Desfontaines*, in behalf of the Museum of Natural History: then Mr. *Prony*, in quality of Vice-President of the first class of the Institute: after which Dr. *Thouret*, in the name, and as Dean of the faculty of Physic, pronounced the following discourse:

Profound grief reigns in this assembly; from every side break forth regrets; what bounds, what limits can be given to them!

What a man has death torn from us! What talents are this day swallowed up in the grave!

A glory, earlier than usual, had announced what he was going to be. It seems as if fate had foreseen that nature would circumscribe his career, and had willed him a recompense.

Scarcely had he left the benches—what do I say—he still sat among us—when we already marked the place that he was destined to hold among the most illustrious men. In the first bloom of his years, in the midst of his fellow-students, he made attempts to excel in the science of that pro-

fessorship which he has carried to so high a degree of perfection.

A pupil of the celebrated *Bucquet*, he soon became his rival; and the teaching of chemistry, which that learned professor, as it were, bequeathed him, lost nothing of the splendour which its first master had given it.

Talent in him was animated with that strong passion which alone can produce entire success. He sought all opportunities of displaying it, at the same time that all the establishments vied with each other in affording them to him, and in soliciting his support.

Who can properly paint that indefatigable activity which rendered him equal to all his duties, to all the labours of his numerous chairs? Who can describe that astonishing ease, which enabled him, in each, to exhibit science in becoming colours? Great and sublime in general chemistry; fruitful and rich in its applications to the arts; bright with creations in animal chemistry! With what superiority of views were all objects treated! With what charm and power of elocution were they displayed! In what order, in what number, in what imposing masses were they grouped!

What crouds pressed to his learned lectures! How were all the avenues to our amphitheatres besieged! How were our porches covered with the multitude of our students!

That eloquent voice is silent! It is forever mute!—but the glory of the illustrious professor will never be diminished. It will live in our remembrance, in the memory of his cotemporaries; it will be transmitted to the remotest posterity, by the faithful tradition of the grateful school. And how can this glory be eclipsed? As distinguished in the sciences by the talent of writing as by the gift of speech, he has left imperishable monuments of his immense knowledge, and of his uncommon abilities. What can be placed higher than the numerous series of papers, in which so many subjects of anatomy, of physiology, of natural history, and of chemistry, have been ably treated? What more durable monument can be erected in honour of the sciences, than that vast system of chemical information, in which the knowledge and the eloquence of the author shine with equal lustre?

He was the *Bergman* of France.—He was more than Bergman.—Happy would it be, if for the sake of worthily

celebrating his memory, he had our immortal *Vicq d'Azyr* to pronounce his panegyric !

Vicq d'Azyr ! what a resemblance ! they were united by friendship at the commencement of their career ; a common lot was prepared for them. A great reputation acquired before advanced age had announced them to the world ;—merciless death has cut them down before their time.

May they rest in peace universally regretted and revered ;—and may physic, which could engage the talents of such great men, and which of itself suffices for so much glory, continue to be honoured among the sciences and by the nations whom it serves and renders illustrious !

(The Count de Fourcroy held numerous important stations. He was a Counsellor of State ; Director General of Public Instruction ; Commandant of the Legion of Honour ; Member of the Institute and of several learned Societies ; Professor in the Faculty of Medicine ; at the Museum of Natural History, for the Polytechnic School, &c.)

REVIEW.

TRAVELS *on an inland voyage through the States of New-York, Pennsylvania, Virginia, Ohio, Kentucky, and Tennessee, and through the territories of Indiana, Louisiana, Mississippi and New-Orleans; performed in the years* 1807 *and* 1808; *including a tour of nearly six thousand miles. With maps, plates, and a portrait of the author.*— *By* CHRISTIAN SCHULTZ, jun. *Esq.* New-York. Riley; 2 vols. 8vo. pp. 207—224.

EVERY publication which has a tendency to facilitate the intercourse between the states of our nation, is entitled to respectful consideration. The communication between the northern and southern members of the union, both coastwise for vessels, and along the various travelling routs by land, is already established to great extent. Other expedients for facilitating the intercourse have been already stated in our work, vol. 12, p. 145, from *Gallatin's Report*, and in vol. 12, p. 272, from *Tatham's Comparative View.*

The connexion of the eastern with the western regions of our territory, is also a subject of deep interest.

The great ridges of mountains, beginning with the Shawangunk, in the northeast, and ending with the Apalachian, in the southwest, form strong barriers of separation. They divide the two Carolinas from Tennessee. They do more; they divide states against themselves: and the eastern counties of Virginia and Pennsylvania are severed thereby from the western. The Potomac, indeed, preserves a connexion, as far as it goes, among the contiguous regions of Virginia, Maryland and Pennsylvania. But even the Potomac is limited by the elevated grounds which determine its waters toward the Chesapeake. Beyond the dividing chains of mountains, the streams and rivers arising in Tennessee, Kentucky, Virginia, Pennsylvania and Ohio find their way to the gulf of Mexico, affording so many natural canals for the transportation of produce.

The eastern ridges, indeed, are penetrated by the Susquehannah and the Delaware, as these rivers proceed from the

state of New-York. Although they form a medium of communication between the extensive countries in which they arise, and the cities of Baltimore and Philadelphia, yet they are obstructed by many civil and physical impediments. And even if their channels were free, perfectly free, they would contribute nothing to the consolidation of the eastern and western interests.

In addition to the produce conveyed on the Delaware, Susquehannah, Potomac, and the more southern rivers, to ports and stations on the Atlantic coast; and to that transported on the Tennessee, the Cumberland, the Monongahela, the Alleghany, the Muskingum, the Scioto, the Wabash and the Ohio, to the great deposit at New-Orleans; there are other channels through which vast quantities of our native articles are invited to the gulf of St. Lawrence.

Until the ratification of the treaty of 1783, Canada was understood to comprehend a great part of the country now forming the northern and western parts of New-York. All the lands lying on the waters running to the northward, westward and southward, in the regions beyond the British provinces, were comprehended by the French under three great divisions, Canada, Illinois and Louisiana. Until the conquest of Canada, and the running of the territorial line on the 45th degree of north latitude, by the British government, a popular sentiment had prevailed that the country of the Iroquois, or Five Indian Nations, belonged to Canada. Accordingly, Canada was then understood to extend from the south end of lake George, including western Vermont, across to lake Otsego, and thence over to Pittsburgh, or in some such direction. This popular distribution assigned to Canada all the northern and western waters, with their contiguous lands, and comprehended also considerable tracts, situated along the upper streams of the Hudson and the Mohawk. And in the main, this was a very obvious and natural arrangement, whereby there was happy conformity of the physical to the civil geography. With such an understanding of the territory and limits, nothing could have seemed more proper than that Canadian produce would centre to Quebec, and that the inhabitants of the northern and western waters should look thither for a market.

They do so. The citizens of Vermont, to the westward of the green mountains look down the Sorrel, for purchasers of their lumber and other bulky produce. And along the

extensive territory of New-York, the inhabitants at Plattsburgh, Oswegatchie, Brownville, Oswego, Sodus, Geneva, Canandaigua and Niagara, turn their eyes as naturally toward Montreal, as the people of Utica or Schenectady look toward Albany.

If the United States possessed the sovereignty of the St. Lawrence, this course of trade might excite local solicitude, but would not be a subject of general uneasiness. But as it is, measures ought certainly to be taken to secure to ourselves so valuable and growing a commerce, and to save it from falling into the hands of an alien power.

Now, a due consideration of the whole matter can scarcely fail to produce a conviction, that a project may be adopted, which will at once strengthen the connexion between the eastern and western states, and bring to New-York, the produce now running away to Quebec. This is neither more nor less THAN CONNECTING BY A CANAL THE WATERS OF LAKE ERIE WITH THOSE OF THE HUDSON; or, *in other words, opening an artificial communication between the river Tonewanto, near Batavia, and the Mohawk at Rome.* The accomplishment of this great object would have a powerful tendency to connect the citizens of the several states by friendly ties, and keep them at home from considerations of interest, instead of making it their interest to ramble away to foreign dominions. Cherishing these sentiments as we do, we can scarcely enough admire and applaud the comprehensive scheme of Mr. Pope, presented to the senate of the United States, for connecting the different parts of the union by canals and roads. A scheme, which on account of its extent and liberality, we despair of seeing realized.

A bare perusal of the Liverpool price current will evince to every reflecting mind what a huge amount of the articles raised in Vermont and New-York are admitted to entry there, under the delusive appellation of Canadian produce!

Mr. Schultz has performed an inland journey, from New-York to New-Orleans. His route was by way of the Hudson to Albany; of the Portage and of the Mohawk to Utica; of the Oneida Lake and Onondago River to Oswego; of lake Ontario to Niagara; of the Portage and lake Erie to Presque Isle; by the Portage, French Creek, and Allegany River to Pittsburgh; by the Ohio to its junction with the Mississippi; from that point up to St. Louis, and down to New-

Orleans; and from this important place, by the customary descent of the river to the gulf, and thence home by sea.

The author does not write much like a naturalist; at least not like a scientific one. His volumes do not abound with many discussions in mineralogy, botany, or zoology; and the information concerning the lead mines in Louisiana, and the lists of plants and of animals which he has given, fall very far short of what we expect from a learned traveller. But the more important intelligence expected from this tourist refers to his greater correctness as to distances, mode of travelling, the time required, the expense incurred, and the risks and dangers to be encountered, with the means of lessening or avoiding them.

Let us examine a few of those subjects. From a table of places and distances prefixed to his first volume, it appears that the length of route, inland, from New-York to New-Orleans, as he travelled it, is three thousand two hundred and fifty-five miles. He computes the return to New-York, down the river from New-Orleans to the Balize, and thence homeward by the Havanna and North-Bahama Shoals, nineteen hundred and thirty-two miles; making a difference in favour of the oceanic communication of thirteen hundred and twenty-three miles.

He states the distance from New-York to Utica to be two hundred and seventy-nine miles; to Oswego, two hundred and eighty-one; to Black-Rock, on Erie, above Niagara-Falls, five hundred and sixty; to Presque Isle, six hundred and eighty; to Pittsburgh, nine hundred and fourteen; to Marietta, one thousand and eighty-four; to Cincinnati, one thousand three hundred and ninety-eight; and to the falls of Ohio, fifteen hundred and forty-six.

The freight upon bulky merchandize, from New-York to Albany, is 40 *cents* for one hundred pounds weight; from Albany to Schenectady 16; from Schenectady to Utica 75; though it seems to be understood that the whole charge from Albany to Utica is but 75 cents; from Utica to Oswego, 1 dollar and 25 cents; from Oswego to fort Niagara, 50 cents; portage to fort Schlosser, a distance of 7 miles, by land, and thence to Black-Rock 25; thence to Presque Isle 50; (to Chataughque, 33 miles nearer, the same) portage from Presque Isle to Le Bœuf 50; from Le Bœuf to Pittsburgh 50; to Marietta 50. The price is considerably

lower, in proportion, when destined for a distance of eight hundred or a thousand miles. By which it appears, that bales of bulky merchandize can be delivered at Utica for 131 cents the hundred, or deducting the 16 as overcharged, for 115 cents; at Oswego for 256—16=240 cents; at Niagra 306—16=290 cents; at Black Rock for 331—16=315; at Presque Isle, at the same rate of reckoning, 365 cents, and at PITTSBURGH FOR 4 DOLLARS AND 65 CENTS.

It will instantly strike the intelligent reader, that already, by this inland route, goods can be transported to the consumer, at the great western market of Pennsylvania, cheaper than they can be delivered there by the waggons of the regular carriers arriving from Philadelphia and Baltimore. And if this is the fact, under all the existing disadvantages, how much cheaper will the business be done, when the obstacles to free transportation shall be removed?

Next, let us take a view of the charges of conveying salt from Onondago and Cayuga to the different places of sale and consumption along the before-mentioned route. The freight of a barrel of salt from Salina to Oswego, including the portage at Oswego-Falls, is 87½ cents; to Niagara 62½; portage to Fort Schlosser 37½; to Black-Rock 37½; to Presque Isle 75; cartage to Le Bœuf 1 50; to Pittsburgh 100; and to Marietta 100; with a proportional diminution of price for barrels freighted to great distances.

Hence it appears, that in carrying on the immense trade in salt from the New-York Springs, at Salina, Montezuma and Galen, the charge of conveying a barrel of that material is three-eighths of a dollar to Oswego; one dollar to Niagara; 1 75 to Black-Rock; to Presque Isle 2 50; and to Pittsburgh, five dollars. The capacity of a barrel is five bushels; the weight of a bushel is fifty-six pounds; and the price of a barrel of salt at the manufactory, is 2 25 a barrel; or a sum varying a little, from 25 to 31 cents the single bushel. If we compute the weight of the salt at 280 pounds, and of the barrel at 20, then each barrel of salt weighing 300 lbs. is transported to Pittsburgh, a distance of 561 miles, for 5 dollars, or 60 lbs. is carried that distance, for one dollar.

If we add the original price of the salt at the springs $2 25, to the expense of transportation to Pittsburgh $5, the amount $7 25, will give some idea of the income and activity diffused through this whole western region, by the an-

nual transportation of twenty-two thousand barrels of salt. It is a vast and growing business, and is likely to increase as long as the springs shall furnish a plenty of strong brine. It is surely a consideration of weight and moment, that this great and necessary article should be afforded to our western brethren as cheap as possible.

Considerations of this kind are worthy of the most serious attention. Upon these the legislature of New-York proceeded, incorporating the Western and Northern Inland Lock Navigation Companies. Under such impressions, did Mr. Gold propose to the senate, in Albany, a further exploration of the country situated between Whitestown and Buffaloe. With similar impressions, Mr. Porter brought the subject luminously before the representatives in congress. With persuasions equally cogent, did Mr. Morris, and six other commissioners, appointed by the legislature of New-York in 1810, proceed on their mission, for improving the inland navigation between the Hudson and the Lakes. How important, if thereby the union of the states can be strengthened by new and additional ties! If Pennsylvania, Ohio, Virginia, Kentucky and Tennessee can procure their foreign articles of consumption from New-York, upon better terms than from any other market! And if the sea-coast in the vicinity of the Hudson, should derive salt from Onondago, at half the price required to extract it from the waters of the ocean!

We shall now examine what observations Mr. Schultz makes concerning the expenses of performing this voyage, and the precautions for personal convenience and safety.—The expense of going from New-York to Albany is stated at a cost of from 6 to 10 dollars for each passenger. From Utica to Oswego, 2 dollars, finding yourself; or treating the boatmen handsomely and paying no passage money. Demurrage for detaining a batteau at Three-River-Point, 6 dollars a day. From Oswego to Niagara, the fare is 6 dollars, including board, for a cabin-passage. For a person in like circumstances, between Black-Rock and Presque Isle 4 dollars, including subsistence. From Le Bœuf to Pittsburgh, 2 dollars, you finding provisions for yourself.

For descending the Ohio, Mr. Schultz is particular in describing the different boats in use. Most people, he says, purchase some sort of vessel, to carry themselves and their effects, and to be at their own command. These can be

bought of any kind from the simple *canoe*, that costs no more than a dollar, out and out, to the series of *perouges*, *skiffs*, *batteaux*, *arks*, *Kentucky boats*, *New-Orleans boats*, and *keel-boats*, up to the *stately barge* that costs five dollars for every foot of her length. In one of these craft, aided by a book, called the *Mississippi navigator*, a helmsman and a set of hands, the traveller, now dubbed a *captain*, prosecutes his voyage.

It deserves notice, however, that persons who wish to get along with the smallest possible expense take passage on board of some of the ordinary boats, in which the whole voyage to New-Orleans, a distance of 2200 miles, will not cost more than from 5 to 10 dollars. Sailors' wages are about 25 dollars a month for the run. Mr. S. has stored his pages with many practical cautions; but, for the methods of navigating in safety amidst sunken logs, delusive fogs, tricky boatmen, shoals, rocks, planters, sawyers, falling banks, and other impediments, we must refer the reader to the work itself.

The time in which travelling can be performed on this rout next deserves attention. The voyage from New-York to Albany occupies from *two* to *five* days. A loaded boat is worked against the stream of the Mohawk, between Schenectady and Utica, at the rate of from 18 to 25 miles a day. From Oswego to Niagara, the trip takes about *twenty-four hours*. From Le Bœuf to Pittsburgh, it took *six* days. From Pittsburgh to Marietta, it usually takes *five* days.

However, instead of gathering these articles of information from the scattered leaves of the work, we shall lay before our readers the table and summary, which form the concluding part of his XVIIIth letter, in vol. II. p. 12.

Table of Distances, Time, and Expenses.

	Miles.		Days.	Highest charge. per cwt.	Lowest charge. per cwt.
From New-York to Albany is	160	by steam-boat	1 1-2	40	20
Schenectady	15	turnpike road	1-2	16	16
Utica	104	by five and ten ton boats	5	75	50
Oswego	104	by the same	3 tolls.	1 25	1 0
Niagara or Lewis-Town	172	by sea vessels	3	50	50
Fort Schlosser and	7	level road	1 1-2	25	25
Black Rock	17	by ten ton boats			
Presque Isle	90	by sea vessels	2	50	50
Le Bœuf	15	turnpike road	1	50	50
Pittsburgh	207	by ten ton boats	5	50	50
	891		22 1-2 days.	$4 81	$4 11

"From the foregoing statement it will be seen, that although the distance is nearly three times as great as the land carriage from Philadelphia and Baltimore, yet an ordinary passage will consume only twenty-two days and a half, and cost at most four dollars and eighty-one cents per hundred for bulky articles, and four dollars and eleven cents for those of greater solidity; excepting salt in barrels, which is still lower. Add to this, that the portages do not altogether amount to more than thirty-eight miles, and since that of Le Bœuf has been turnpiked, the whole of that distance may be considered as a smooth and even road, without so much as a stone to obstruct the wheels of a carriage. Those, therefore, who may hereafter pursue this route, need not be under any apprehension of meeting with delays on these waters for want of a ready conveyance; or of being detained at any of the portages for want of teams, as these are always ready to start at a moment's warning; so that within half an hour after landing, the goods may be on their way to the next place of shipment.

"This route may be used at all times of the year, when the navigation is open, by boats of ten tons burthen, except from July to October, while the waters are low; when it may still be navigated by light boats carrying three or four tons only. I would advise those who transport goods this way, to provide themselves with large tarpawlings to cover them, which will effectually secure them from all damages of wind or weather.

"Another advantage attending this route is, that those who wish to transport their goods beyond Pittsburgh, may at all times purchase a boat at Le Bœuf cheaper than at the former place, and by this means reduce the last item of the charges of freight exactly one half, which would bring it to four dollars and fifty-six cents, and three dollars and eighty-six cents, on every hundred weight.

"Although this estimate is already far below the price of waggon-hire from Philadelphia and Baltimore, yet I had assurances from the captains of both the vessels in which I sailed across the lakes, that they would reduce their freight still lower in order to encourage the transportation of merchandise by that route. And Messrs. Porter, Barton, & Co. who have the exclusive portage around the falls of Niagara, informed me that they would not only reduce their rates to the lowest cent, and afford every facility to those

who travel that route, but would likewise make it a general rule to give merchandise the preference in all their shipments.

" You will find, upon referring to my table of expenses, that the distance from Utica to Oswego is the most extravagant of all the charges, being not less than a dollar and twenty-five cents per hundred weight for a hundred and four miles. You will no doubt recollect the observations I communicated to you while passing that route. I shall therefore now only add, that as the Western Inland Navigation Company seem unable to extend their improvements agreeably to their charter, it is more than probable the legislature will soon adopt some effectual measures to accomplish the objects for which they were incorporated. It is of the utmost importance to the state, that this navigation should be completed with all convenient speed, and that the tolls should be so reduced as to make it an object to those who may prefer this circuitous route. When this is accomplished, and the tolls reduced (as they will be) at least fifty per cent. we can then deliver our goods at Pittsburgh at a less cost than four dollars per hundred weight, and be enabled to supply the back parts of Pennsylvania and Virginia, the whole of the states of Ohio, Kentucky, and Tennessee, together with the Territories of Michigan, Indiana, and Louisiana."

After this full display of the more valuable parts of Mr. Schultz's performance, it might seem that we had taken a sufficiently respectful notice of it; but before we dismiss it, we feel it incumbent on us to make a few other observations, and these we add that we may not appear to slight the remaining parts of the narrative. We have forborne to extract his description of the salt works at Salina, and its vicinity, because in our Medical Repository, vol. 2. p. 317, there is already an instructive history of them. Our work, too, contains several valuable topographical descriptions of the eastern regions of Ohio, by Forsyth and Hildreth, vol. 12, p. 350 and 358, and also by Drake, vol. 14, p. 169, superseding, in some measure, the necessity of making quotations from Mr. S. The lead mines, in Upper Louisiana, are more circumstantially described by Austin, as may be seen in our vol. 9, p. 87. And with the description before us by M'Kay, in our vol. 10, p. 27; by Lewis and Clarke, vol. 10, p. 288; and by Pike, vol. 10, p. 376; by Dunbar,

vol. 8, p. 292; and vol. 13, p. 366; by Ellicot, vol. 7, p. 262; by Pintard, vol. 5, p. 489; and by the author of the Ohio and Mississippi Navigator, vol. 13, p. 158; the particulars of the two last rivers and of the Missouri, are sufficiently detailed, to excuse us from entering into a more circumstantial account of that part of Mr. S.'s work which treats of these subjects. Though we have no doubt, even they will be generally read with entertainment and instruction.

The whole is comprised in thirty-three letters to one of the author's friends. The maps are, 1. of the United States and Louisiana; 2. of the author's route by the Hudson, Mohawk, &c. to Pittsburgh; 3. of the Ohio, and the region around St. Louis; and 4. of the Mississippi down to New-Orleans. The embellishments are, 1. a Mohawk river batteaux, under sail and stemming the stream; 2. plan of the ancient works at Marietta; and 3. a section of the channel and banks of the Mississippi; all executed with taste.

TRAVELS *and* ADVENTURES *in* CANADA, *and the Indian Territories, between the years* 1760, *and* 1776. *In two parts.* By ALEXANDER HENRY, Esq. New-York—Riley—1809. 8vo. pp. 330. (With a likeness of the Author, engraved by P. Maverick.)

THE geography of the northwestern regions of our continent has been so far developed by later travellers in that quarter, that little information of that kind can be expected from an adventurer who finished his career more than thirty years ago. There was a time when Mr. Henry was famed for having penetrated further beyond lake Superior than any other individual from Montreal. This was long before Mackenzie was known as an agent in the fur-trade. If Mr. H. had been just to himself, he would have published his book soon after his return. Public curiosity was then ardent and lively, and nobody could then have gratified it so well as this intrepid pioneer of the forest.

While his manuscripts lay folded in his scrutoire, another voyager, who had gone further to the northward and to the westward than himself, gratified the public with a narrative. Mackenzie, as may be seen, in our vol. 7, p. 289, found the

salt ocean in both directions. He travelled over much of the ground which had been visited before by Henry. The information he has given us, supersedes, in a great measure, the story told us at this late day, by the man who had gone over the ground before him. We regret that Mr. H. who ought to have spoken first, has suffered another to anticipate him in a great many of the things he had to offer. Many of the matters which would have attracted the closest attention in 1776, and for some years after, are now become quite familiar to us. For, at the time of Mr. H.'s return, he ranked higher than Carver, for the extent of his expeditions and length of his sojournings among the remoter natives.

But it is our business to examine the work as it lies before us. The personal friends of the author will doubtless read with interest the hardships he encountered, and the dangers he incurred among the savages. Of these we shall not give a very particular recital. It will be rather our desire to exhibit such parts as will add to the mass of general information.

Of the two parts into which Mr. H. has divided his travels, the first treats of journies between Montreal and Oswegatchie, and Montreal and Michillimakkinac; between Michillimakkinac and the outlet of lake Superior, called the *Sault de Sainte Marie*; and between the same place and Les Isles du Castor, in lake Michigan, as an adopted Chipeway Indian, or as a person in the condition of a captive and slave; and also from the Sault de St. Marie to Niagara, and back to Michillimakkinac.

In the second part, Mr. Henry gives an account of his having obtained an exclusive right to the fur trade of lake Superior; of his voyage to the Sault de St. Marie; to Chagauemig; to Michipicoten; to the Isle of Maurepas; the island of yellow sands; to the Grand Portage; and thence to the northwest, by the Gooseberry-River, the Rainy Lake, through the Chipeway villages to the Lake of the Woods, the portage Du Rat, the Winipeek Lake, the carrying place of the Lost Child, the Bainber river, the Sascatchiwaine-River, the Grand Rapid, and other stations in the country of the Christinaux, to Cumberland-House. He also relates his excursions to Sturgeon Lake, the river Maligne, the Beaver Lake, to the Prairies or Great Plains, to the country of the Assiniboins, to the Moose river. After these recitals, he

tells of his return with the Assiniboins to the Fort des Prairies; of his passage thence to Beaver Lake; of his adventure on the river Mississippi toward lake Arabuthcaw; and thence by the great portage to Montreal.

The former part occupies four years; from 1760, to 1764; and the latter, the time from 1765 to 1776, or about eleven years.

The adventures related in the former were made when the influence of the French was declining in Canada, and the English succeeding to their possessions and their power. The natives had strong attachments to the French. And although Gen. Amherst had descended victorious from Oswego, by Fort de Levy to Montreal; and although the French posts, from lake George to the river St. Lawrence, and from Quebec upwards, had submitted to the British arms, the Indians in the interior settlements still maintained a firm predilection for their Gallic allies. Of this they gave many proofs. The author was obliged to conceal that he was an Englishman, and to assume the dress and character of a Canadian, to save his life. A British garrison which arrived at Michillimakkinac, was surprized and murdered. The author found a place of safety from this massacre. We extract a paragraph in his own words, descriptive of the ferocity of the savages:

"This shelter obtained, if shelter I could hope to find it, I was naturally anxious to know what might still be passing without. Through an aperture, which afforded me a view of the area of the fort, I beheld, in shapes the foulest and most terrible, the ferocious triumphs of barbarian conquerors. The dead were scalped and mangled; the dying were writhing and shrieking, under the unsatiated knife and tomahawk; and, from the bodies of some, ripped open, their butchers were drinking the blood, scooped up in the hollow of joined hands, and quaffed amid shouts of rage and victory. I was shaken, not only with horror, but with fear. The sufferings which I witnessed, I seemed on the point of experiencing. No long time elapsed, before every one being destroyed, who could be found, there was a general cry, of "All is finished!" At the same instant, I heard some of the Indians enter the house in which I was."

A feast on human flesh is thus described.

"Wawatam thanked the assembled chiefs, and taking me

by the hand, led me to his lodge, which was at the distance of a few yards only from the prison-lodge. My entrance appeared to give joy to the whole family; food was immediately prepared for me; and I now ate the first hearty meal which I had made since my capture. I found myself one of the family; and but that I had still my fears, as to the other Indians, I felt as happy as the situation could allow.

"In the course of the next morning, I was alarmed by a noise in the prison-lodge; and looking through the openings of the lodge in which I was, I saw seven dead bodies of white men dragged forth. Upon my inquiry into the occasion, I was informed, that a certain chief, called, by the Canadians, Le Grand Sable, had not long before arrived from his winter's hunt; and that he, having been absent when the war begun, and being now desirous of manifesting to the Indians at large, his hearty concurrence in what they had done, had gone into the prison-lodge, and there, with his knife, put the seven men, whose bodies I had seen, to death.

"Shortly after, two of the Indians took one of the dead bodies, which they chose as being the fattest, cut off the head, and divided the whole into five parts, one of which was put into each of five kettles, hung over as many fires, kindled for this purpose, at the door of the prison-lodge. Soon after things were so far prepared, a message came to our lodge, with an invitation to Wawatam, to assist at the feast.

"An invitation to a feast is given by him who is the master of it. Small cuttings of cedar-wood, of about four inches in length, supply the place of cards; and the bearer, by word of mouth, states the particulars.

"Wawatam obeyed the summons, taking with him, as is usual, to the place of entertainment, his dish and spoon.

"After an absence of about half an hour, he returned, bringing in his dish a human hand, and a large piece of flesh. He did not appear to relish the repast, but told me, that it was then, and always had been the custom, among all the Indian nations, when returning from war, or on overcoming their enemies, to make a war-feast, from among the slain. This, he said, inspired the warrior with courage in attack, and bred him to meet death with fearlessness."

Mr. Henry has given many particulars of the manners and customs of the natives. In addition to the extracts on

cannibalism, we quote the passage in which he relates the history of medicine and of physicians among them.

"While in the bay, my guardian's daughter-in-law was taken in labour, of her first child. She was immediately removed out of the common lodge; and a small one, for her separate accommodation, was begun and finished by the women in less than half an hour.

"The next morning, we heard that she was very ill, and the family began to be much alarmed on her account; the more so, no doubt, because cases of difficult labour are very rare among Indian women. In this distress, Wawatam requested me to accompany him into the woods; and on our way informed me, that if he could find a snake, he should soon secure relief to his daughter-in-law.

"On reaching some wet ground, we speedily obtained the object of our search, in a small snake, of the kind called the garter-snake. Wawatam seized it by the neck; and, holding it fast, while it coiled itself round his arm, he cut off its head, catching the blood in a cup that he had brought with him. This done, he threw away the snake, and carried home the blood, which he mixed with a quantity of water. Of this mixture, he administered first one tablespoonful, and shortly after a second. Within an hour, the patient was safely delivered of a fine child; and Wawatam subsequently declared, that the remedy, to which he had resorted, was one that never failed.

"On the next day, we left the Bay of Boutchitaouy; and the young mother, in high spirits, assisted in loading the canoe, barefooted, and knee-deep in the water.

"The medical information, the diseases and the remedies of the Indians, often engaged my curiosity, during the period through which I was familiar with these nations; and I shall take this occasion to introduce a few particulars, connected with their history.

"The Indians are in general free from disorders; and an instance of their being subject to dropsy, gout, or stone, never came within my knowledge. Inflammations of the lungs are among their most ordinary complaints, and rheumatism still more so, especially with the aged. Their mode of life, in which they are so much exposed to the wet and cold, sleeping on the ground, and inhaling the night air, sufficiently accounts for their liability to these diseases. The remedies, on which they most rely, are emetics, cathartics

and the lancet; but especially the last. Bleeding is so favourite an operation among the women, that they never lose an occasion of enjoying it, whether sick or well. I have sometimes bled a dozen women in a morning, as they sat in a row, along a fallen tree, beginning with the first—opening the vein—then proceeding to the second—and so on, having three or four individuals bleeding at the same time.

" In most villages, and particularly in those of the Chipeways, this service was required of me; and no persuasion of mine could ever induce a woman to dispense with it.

" In all parts of the country, and among all the nations that I have seen, particular individuals arrogate to themselves the art of healing, but principally by means of pretended sorcery; and operations of this sort are always paid for by a present, made before they are begun. Indeed, whatever, as an impostor, may be the demerits of the operator, his reward may generally be said to be fairly earned, by dint of corporeal labour.

" I was once present at a performance of this kind, in which the patient was a female child of about twelve years of age. Several of the elder chiefs were invited to the scene; and the same compliment was paid to myself, on account of the medical skill for which it was pleased to give me credit.

" The physician (so to call him) seated himself on the ground; and before him, on a new stroud blanket, was placed a bason of water, in which were three bones, the larger ones, as it appeared to me, of a swan's wing. In his hand, he had his *shishiquoi*, or rattle, with which he beat time to his *medicine-song*. The sick child lay on a blanket, near the physician. She appeared to have much fever, and a severe oppression of the lungs, breathing with difficulty, and betraying symptoms of the last stage of consumption.

" After singing for some time, the physician took one of the bones out of the bason: the bone was hollow; and one end being applied to the breast of the patient, he put the other into his mouth, in order to remove the disorder by suction. Having persevered in this as long as he thought proper, he suddenly seemed to force the bone into his mouth, and swallow it. He now acted the part of one suffering severe pain; but, presently finding relief, he made a long

speech, and after this, returned to singing, and to the accompaniment of his rattle. With the latter, during his song, he struck his head, breast, sides and back; at the same time straining, as if to vomit forth the bone.

"Relinquishing this attempt, he applied himself to suction a second time, and with the second of the three bones; and this also he soon seemed to swallow.

"Upon its disappearance, he began to distort himself in the most frightful manner, using every gesture which could convey the idea of pain: at length, he succeeded, or pretended to succeed, in throwing up one of the bones. This was handed about to the spectators, and strictly examined; but nothing remarkable could be discovered. Upon this, he went back to his song and rattle; and after some time threw up the second of the two bones. In the groove of this, the physician, upon examination, found, and displayed to all present, a small white substance, resembling a piece of the quill of a feather. It was passed round the company, from one to the other; and declared, by the physician, to be the thing causing the disorder of his patient.

"The multitude believe that these physicians, whom the French call *joueurs*, or jugglers, can inflict as well as remove disorders. They believe, that by drawing the figure of any person in sand or ashes, or on clay, or by considering any object as the figure of a person, and then pricking it with a sharp stick, or other substance, or doing in any other manner, that which done to a living body, would cause pain or injury, the individual represented, or supposed to be represented, will suffer accordingly. On the other hand, the mischief being done, another physician, of equal pretensions, can by suction remove it.—Unfortunately, however, the operations which I have described were not successful, in the instance referred to; for, on the day after they had taken place, the girl died.

"With regard to flesh-wounds, the Indians certainly effect astonishing cures. Here, as above, much that is fantastic occurs; but the success of their practice evinces something solid.

"At the Sault de Sainte-Marie, I knew a man, who, in the result of a quarrel, received the stroke of an axe in his side. The blow was so violent, and the axe driven so deep, that the wretch who held it could not withdraw it, but left it in the wound, and fled. Shortly after, the man was found.

and brought into the fort, where several other Indians came to his assistance. Among these, one, who was a physician, immediately withdrew, in order to fetch his *penegusan*, or medicine-bag, with which he soon returned. The eyes of the sufferer were fixed, his teeth closed, and his case apparently desperate.

" The physician took from his bag a small portion of a very white substance, resembling that of a bone; this he scraped into a little water, and forcing open the jaws of the patient with a stick, he poured the mixture down his throat. What followed was, that in a very short space of time, the wounded man moved his eyes; and beginning to vomit, threw up a small lump of clotted blood.

" The physician now, and not before, examined the wound, from which I could see the breath escape, and from which a part of the omentum depended. This, the physician did not set about to restore to its place; but, cutting it away, minced it into small pieces, and made his patient swallow it.

" The man was then carried to his lodge, where I visited him daily. By the sixth day, he was able to walk about; and within a month he grew quite well, except that he was troubled with a cough. Twenty years after his misfortune, he was still alive.

" Another man, being on his wintering-ground, and from home, hunting beaver, was crossing a lake, covered with smooth ice, with two beavers on his back, when his foot slipped, and he fell. At his side, in his belt, was his axe, the blade of which came upon the joint of his wrist; and, the weight of his body coming upon the blade, his hand was completely separated from his arm, with the exception of a small piece of the skin. He had to walk three miles to his lodge, which was thus far away. The skin, which alone retained his hand to his arm, he cut through, with the same axe which had done the rest; and fortunately having on a shirt, he took it off, tore it up, and made a strong ligature above the wrist, so as in some measure to avoid the loss of blood. On reaching his lodge, he cured the wound himself, by the mere use of simples. I was a witness to its perfect healing.

" I have said, that these physicians, jugglers, or practitioners of pretended sorcery, are supposed to be capable of inflicting diseases; and I may add, that they are sometimes

themselves sufferers on this account. In one instance, I saw one of them killed, by a man who charged him with having brought his brother to death, by malefic arts. The accuser, in his rage, thrust his knife into the belly of the accused, and ripped it open. The latter caught his bowels in his arms, and thus walked toward his lodge, gathering them up from time to time, as they escaped his hold. His lodge was at no considerable distance, and he reached it alive, and died in it."

The author has interspersed his narrative with some observations on natural history. That our readers may judge of his talent in this way, we lay before them his observations on hunting, taken from p. 127 and seq.

"To kill beaver, we used to go several miles up the rivers, before the approach of night, and after the dusk came on, suffer the canoe to drift gently down the current, without noise. The beaver, in this part of the evening, come abroad to procure food, or materials for repairing their habitations; and as they are not alarmed by the canoe, they often pass it within gun-shot.

"While we thus hunted along our way, I enjoyed a personal freedom of which I had been long deprived, and became as expert in the Indian pursuits, as the Indians themselves.

"On entering the river Aux Sables, Wawatam took a dog, tied its feet together, and threw it into the stream, uttering, at the same time, a long prayer, which he addressed to the Great Spirit, supplicating his blessing on the chase, and his aid in the support of the family, through the dangers of a long winter.—Our lodge was fifteen miles above the mouth of the stream. The principal animals, which the country afforded, were the stag or red-deer, the common American deer, the bear, racoon, beaver and marten.

"The beaver feeds in preference on young wood of the birch, aspen, and poplar-tree;* but, in defect of these, on any other tree, those of the pine and fir kinds excepted. These latter it employs only for building its dams and houses. In wide meadows, where no wood is to be found, it resorts, for all its purposes, to the roots of the rush and water-lily. It consumes great quantities of food, whether of

* *Populus nigra*, called, by the Canadians, *liard*.

roots or wood; and hence often reduces itself to the necessity of removing into a new quarter. Its house has an arched dome-like roof, of an elliptical figure, and rises from three to four feet above the surface of the water. It is always entirely surrounded by water; but, in the banks adjacent, the animal provides holes or *washes*, of which the entrance is below the surface, and to which it retreats on the first alarm.

"The female beaver usually produces two young at a time, but not unfrequently more. During the first year, the young remain with their parents. In the second, they occupy an adjoining apartment, and assist in building, and in procuring food. At two years old, they part, and build houses of their own; but often rove about for a considerable time, before they fix upon a spot. There are beavers, called, by the Indians, *old bachelors*, who live by themselves, build no houses, and work at no dams, but shelter themselves in holes. The usual method of taking these is by traps, formed of iron, or logs, and baited with branches of poplar.

"According to the Indians, the beaver is much given to jealousy. If a strange male approaches the cabin, a battle immediately ensues. Of this, the female remains an unconcerned spectator, careless to which party the law of conquest may assign her. Among the beaver which we killed, those who were with me pretended to show demonstrations of this fact; some of the skins of the males, and almost all of the older ones, bearing marks of violence, while none were ever to be seen on the skins of the females.

"The Indians add, that the male is as constant as he is jealous, never attaching himself to more than one female; while the female, on her side, is always fond of strangers.

"The most common way of taking the beaver is that of breaking up its house, which is done with trenching-tools, during the winter, when the ice is strong enough to allow of approaching them; and when, also, the fur is in its most valuable state.

"Breaking up the house, however, is only a preparatory step. During this operation, the family make their escape to one or more of their *washes*. These are to be discovered, by striking the ice along the bank, and where the holes are, a hollow sound is returned. After discovering and searching many of these in vain, we often found the whole

family together, in the same wash. I was taught occasionally to distinguish a full wash from an empty one, by the motion of the water above its entrance, occasioned by the breathing of the animals concealed in it. From the washes, they must be taken out with the hands; and in doing this, the hunter sometimes receives severe wounds from their teeth. While a hunter, I thought, with the Indians, that the beaver-flesh was very good; but after that of the ox was again within my reach, I could not relish it. The tail is accounted a luxurious morsel.

"Beavers, say the Indians, were formerly a people endowed with speech, not less than with the other noble faculties they possess; but, the Great Spirit has taken this away from them, lest they should grow superior in understanding to mankind.

"The racoon was another object of our chase. It was my practice to go out in the evening, with dogs, accompanied by the youngest son of my guardian, to hunt this animal. The racoon never leaves its hiding-place till after sun-set.

"As soon as a dog falls on a fresh track of the racoon, he gives notice by a cry, and immediately pursues. His barking enables the hunter to follow. The racoon, which travels slowly, and is soon overtaken, makes for a tree, on which he remains till shot.

"After the falling of the snow, nothing more is necessary, for taking the racoon, than to follow the track of his feet. In this season, he seldom leaves his habitation; and he never lays up any food. I have found six at a time, in the hollow of one tree, lying upon each other, and nearly in a torpid state. In more than one instance, I have ascertained that they have lived six weeks without food. The mouse is their principal prey.

"Racoon-hunting was my more particular and daily employ. I usually went out at the first dawn of day, and seldom returned till sun-set, or till I had laden myself with as many animals as I could carry. By degrees, I became familiarized with this kind of life; and had it not been for the idea of which I could not divest my mind, that I was living among savages, and for the whispers of a lingering hope, that I should one day be released from it—or if I could have forgotten that I had ever been otherwise than as I then

was—I could have enjoyed as much happiness in this, as in any other situation."

The ceremony of consulting the GREAT TURTLE, has in it such a resemblance to consulting the oracle among the ancient Greeks, that we insert it entire, for the purpose of showing how nearly one race of men resemble another, in remote situations and distant ages; it was performed at the Sault of St. Mary, in June 1764.

"For invoking and consulting the Great Turtle, the first thing to be done was the building of a large house or wigwam, within which was placed a species of tent, for the use of the priest, and reception of the spirit. The tent was formed of moose-skins, hung over a frame-work of wood. Five poles, or rather pillars, of five different species of timber, about ten feet in height, and eight inches in diameter, were set in a circle of about four feet in diameter. The holes made to receive them were about two feet deep; and the pillars being set, the holes were filled up again, with the earth which had been dug out. At top, the pillars were bound together by a circular hoop, or girder. Over the whole of this edifice were spread the moose-skins, covering it at top and round the sides, and made fast with thongs of the same; except that on one side a part was left unfastened, to admit of the entrance of the priest.

"The ceremonies did not commence but with the approach of night. To give light within the house, several fires were kindled round the tent. Nearly the whole village assembled in the house, and myself among the rest. It was not long before the priest appeared, almost in a state of nakedness. As he approached the tent the skins were lifted up, as much as was necessary to allow of his creeping under them, on his hands and knees. His head was scarcely within side, when the edifice, massy as it has been described, began to shake; and the skins were no sooner let fall, than the sounds of numerous voices were heard beneath them; some yelling; some barking as dogs; some howling like wolves: and in this horrible concert were mingled screams and sobs, as of despair, anguish and the sharpest pain. Articulate speech was also uttered, as if from human lips; but in a tongue unknown to any of the audience.

"After some time, these confused and frightful noises were succeeded by a perfect silence; and now a voice, not heard before, seemed to manifest the arrival of a new cha-

racter in the tent. This was a low and feeble voice, resembling the cry of a young puppy. The sound was no sooner distinguished, than all the Indians clapped their hands for joy, exclaiming, that this was the Chief Spirit, the TURTLE, the spirit that never lied! Other voices, which they had discriminated from time to time, they had previously hissed, as recognising them to belong to evil and lying spirits, which deceive mankind.

"New sounds came from the tent. During the space of half an hour, a succession of songs were heard, in which a diversity of voices met the ear. From his first entrance, till these songs were finished, we heard nothing in the proper voice of the priest; but, now, he addressed the multitude, declaring the presence of the GREAT TURTLE, and the spirit's readiness to answer such questions as should be proposed.

"The questions were to come from the chief of the village, who was silent, however, till after he had put a large quantity of tobacco into the tent, introducing it at the aperture. This was a sacrifice, offered to the spirit; for spirits are supposed by the Indians to be as fond of tobacco as themselves. The tobacco accepted, he desired the priest to inquire, Whether or not the English were preparing to make war upon the Indians? and, Whether or not there were at fort Niagara a large number of English troops?

"These questions having been put by the priest, the tent instantly shook; and for some seconds after, it continued to rock so violently, that I expected to see it levelled with the ground. All this was a prelude, as I supposed, to the answers to be given; but a terrific cry announced, with sufficient intelligibility, the departure of the TURTLE.

"A quarter of an hour elapsed in silence, and I waited impatiently to discover what was to be the next incident, in this scene of imposture. It consisted in the return of the spirit, whose voice was again heard, and who now delivered a continued speech. The language of the GREAT TURTLE, like that which we had heard before, was wholly unintelligible to every ear, that of his priest excepted; and it was, therefore, that not till the latter gave us an interpretation, which did not commence before the spirit had finished, that we learned the purport of this extraordinary communication.

" The spirit, as we were now informed by the priest, had, during his short absence, crossed lake Huron, and even proceeded as far as fort Niagara, which is at the head of lake Ontario, and thence to Montreal. At fort Niagara, he had seen no great number of soldiers; but, on descending the Saint Lawrence, as low as Montreal, he had found the river covered with boats, and the boats filled with soldiers, in number like the leaves of the trees. He had met them on their way up the river, coming to make war upon the Indians.

" The chief had a third question to propose, and the spirit, without a fresh journey to fort Niagara, was able to give it an instant and most favourable answer: " If," said the chief, " the Indians visit Sir William Johnson, will they " be received as friends?"

" Sir William Johnson," said the spirit, (and after the spirit, the priest,) " Sir William Johnson will fill their ca- " noes with presents; with blankets, kettles, guns, gun- " powder and shot, and large barrels of rum, such as the " stoutest of the Indians will not be able to lift; and every " man will return in safety to his family."

" At this, the transport was universal; and, amid the clapping of hands, a hundred voices exclaimed, " I will go, " too! I will go, too!"

" The questions of public interest being resolved, individuals were now permitted to seize the opportunity of inquiring into the condition of their absent friends, and the fate of such as were sick. I observed that the answers, given to these questions, allowed of much latitude of interpretation.

" Amid this general inquisitiveness, I yielded to the solicitations of my own anxiety for the future; and having first, like the rest, made my offering of tobacco, I inquired, whether or not I should ever revisit my native country? The question being put by the priest, the tent shook as usual; after which I received this answer: " That I should " take courage, and fear no danger, for that nothing would " happen to hurt me; and that I should, in the end, reach " my friends and country in safety." These assurances wrought so strongly on my gratitude, that I presented an additional and extra offering of tobacco.

" The GREAT TURTLE continued to be consulted till near midnight, when all the crowd dispersed to their res-

pective lodges. I was on the watch, through the scene I have described, to detect the particular contrivances by which the fraud was carried on; but, such was the skill displayed in the performance, or such my deficiency of penetration, that I made no discoveries, but came away as I went, with no more than those general surmises which will naturally be entertained by every reader.*

"On the 10th of June, I embarked with the Indian deputation, composed of sixteen men. Twenty had been the number originally designed; and upward of fifty actually engaged themselves to the council for the undertaking; to say nothing of the general enthusiasm, at the moment of hearing the GREAT TURTLE's promises. But, exclusively of the degree of timidity which still prevailed, we are to take into account the various domestic calls, which might supersede all others, and detain many with their families."

Peace having been concluded between the British government and their colonies on the one part, and the French and their Indian allies, on the other, Mr. Henry set out on his great expedition to the regions of the north west, in 1765. Among his observations on lake Superior, are many concerning the celebrated beds of native copper. In his second part, p. 194, he writes, that the mouth of the river Ontonagan is chiefly remarkable for the abundance of virgin copper, which is on its banks and in its neighbourhood. It existed in masses of various weight. The natives showed him a piece weighing twenty pounds. They were accustomed to manufacture it into spoons and bracelets. It was so pure, that they had only to beat it into proper forms. In p. 204, he says, he found at ten miles up that river, a body of copper that he estimated to weigh five tons. With an axe, he cut off a mass amounting to an hundred pounds. In p. 212, he affirms, that he found several veins

"* M. de Champlain has left an account of an exhibition of the nature here described, which may be seen in Charlevoix's Histoire et Description Generale de la Nouvelle France, livre IV. This took place in the year 1609, and was performed among a party of warriors, composed of Algonquins, Montagnez and Hurons. Carver witnessed another, among the Cristinaux. In each case, the details are somewhat different, but the outline is the same. M. de Champlain mentions, that he saw the *joueur* shake the stakes or pillars of the tent. I was not so fortunate; but, this is the obvious explanation of that part of the mystery to which it refers. Captain Carver leaves the whole in darkness."

of copper-ore at Point Mamance, of that kind which the miners call grey ore. Near the island or grave of Nanibojou, he found (p. 213,) several pieces of virgin copper, of which many were remarkable for their form; some resembling the leaves of vegetables, and others, animals. Their weight was from an ounce to three pounds.

The specimens which Mr. H. brought away, and the rumours spread concerning the richness and abundance of the mineral treasures on the shores of lake Superior, induced an association to be formed in England for working these invaluable mines. In consequence of this Company's instructions, various projects were undertaken, much money was spent, and the scheme abandoned in despair, in the interval between the years 1770 and 1774. Had the American Government known that this lake, its shores and its islands had been explored, over and again for copper, with the most discouraging success, under the patronage of the Duke of Gloucester, Mr. Secretary Townshend, Mr. William Johnson, and other distinguished characters, the expedition might have been spared, that was authorized by a concurrent resolution of the two houses of congress, on the 16th day of April, 1800, under a conviction that the copper of lake Superior can never be profitably sought but for local consumption.

During the author's journey over the snows from Beaver Lake to the Great Plains of the Assiniboins, in Jan. 1776, he and his companions were in danger of perishing by hunger. Their expedients to stimulate the stomach by warm water, and to lengthen out at the same time their scanty remnant of food, are worthy of being generally known, both as they enlarge our views of the animal economy, and furnish instruction to persons in danger of starving. p. 268.

" On the fifteenth, our situation was rendered still more alarming, by the commencement of a fresh fall of snow, which added nearly two feet to the depth of that which was on the ground before. At the same time, we were scarcely able to collect enough wood for making a fire to melt the snow. The only trees around us were starveling willows; and the hills, which discovered themselves at a small distance, were bare of every vegetable production, such as could rear itself above the snow. Their appearance was rather that of lofty snow-banks, than of hills. We were now on the borders of the Plains.

"On the twentieth, the last remains of our provisions were expended; but, I had taken the precaution to conceal a cake of chocolate, in reserve for an occasion like that which was now arrived. Toward evening, my men, after walking the whole day, began to lose their strength; but, we nevertheless kept on our feet till it was late; and, when we encamped, I informed them of the treasure which was still in store. I desired them to fill the kettle with snow, and argued with them the while, that the chocolate would keep us alive, for five days at least; an interval in which we should surely meet with some Indian at the chase. Their spirits revived at the suggestion; and, the kettle being filled with two gallons of water, I put into it one square of the chocolate. The quantity was scarcely sufficient to alter the colour of the water; but, each of us drank half a gallon of the warm liquor, by which we were much refreshed, and in its enjoyment felt no more of the fatigues of the day. In the morning, we allowed ourselves a similar repast, after finishing which, we marched vigorously for six hours. But, now, the spirits of my companions again deserted them, and they declared, that they neither would, nor could, proceed any further. For myself, they advised me to leave them, and accomplish the journey as I could; but, for themselves, they said, that they must die soon, and might as well die where they were, as any where else.

"While things were in this melancholy posture, I filled the kettle, and boiled another square of chocolate. When prepared, I prevailed upon my desponding companions to return to their warm beverage. On taking it, they recovered inconceivably; and, after smoking a pipe, consented to go forward. While their stomachs were comforted by the warm water, they walked well; but, as evening approached, fatigue overcame them, and they relapsed into their former condition; and, the chocolate being now almost entirely consumed, I began to fear that I must really abandon them: for I was able to endure more hardship than they; and, had it not been for keeping company with them, I could have advanced, double the distance, within the time which had been spent. To my great joy, however, the usual quantity of warm water revived them.

"For breakfast, the next morning, I put the last square of chocolate into the kettle; and our meal finished, we began our march, in but very indifferent spirits. We were

surrounded by large herds of wolves, which sometimes came close upon us, and who knew, as we were prone to think, the extremity in which we were, and marked us for their prey; but, I carried a gun, and this was our protection. I fired several times, but unfortunately missed at each; for a morsel of wolf's flesh would have afforded us a banquet.

"Our misery, nevertheless, was still nearer its end than we imagined; and the event was such as to give one of the innumerable proofs, that despair is not made for man. Before sunset, we discovered, on the ice, some remains of the bones of an elk, left there by the wolves. Having instantly gathered them, we encamped; and, filling our kettle, prepared ourselves a meal of strong and excellent soup. The greater part of the night was passed in boiling and regaling on our booty; and early in the morning we felt ourselves strong enough to proceed.

"This day, the twenty-fifth, we found the borders of the Plains reaching to the very banks of the river, which were two hundred feet above the level of the ice. Water-marks presented themselves at twenty feet above the actual level.

"Want had lost his dominion over us. At noon, we saw the horns of a red-deer, standing in the snow, on the river. On examination, we found that the whole carcass was with them, the animal having broke through the ice in the beginning of the winter, in attempting to cross the river, too early in the season; while his horns, fastening themselves in the ice, had prevented him from sinking. By cutting away the ice, we were enabled to lay bare a part of the back and shoulders, and thus procure a stock of food, amply sufficient for the rest of our journey. We accordingly encamped, and employed our kettle to good purpose; forgot all our misfortunes; and prepared to walk with cheerfulness the twenty leagues, which, as we reckoned, still lay between ourselves and Fort des Prairies.

"Though the deer must have been in this situation ever since the month of November, yet its flesh was perfectly good. Its horns alone were five foot high, or more; and it will therefore not appear extraordinary, that they should be seen above the snow.

"On the twenty-seventh, in the morning, we discovered

the print of snow-shoes, demonstrating that several persons had passed that way the day before. These were the first marks of other human feet than our own, which we had seen since our leaving Cumberland-House ; and it was much to feel, that we had fellow-creatures in the wide waste surrounding us ! In the evening, we reached the fort."

It is a curious fact, that sturgeons abound in the upper lakes of North America, where the waters are wholly fresh, and where there is no connexion whatever with the brine of the ocean, or with any saline sea or pond of the interior. (See Medical Reposity, vol. 13, p. 404.) Mr. H. saw sturgeons in the waters, beyond the Altawa River, which run westward into lake Huron (p. 30 ;) in the lake itself, near the mouths of the Missisaki (p. 35 ;) at Michillimakkinac (p. 53 ;) at the mouth of the river Ontonagan, on the south side of lake Superior, in such plenty that a month's subsistence for a regiment of men could be taken in a few hours (p. 194.) He speaks of Sturgeon-Lake on the north-western waters, in p. 260 ; beyond the Winipegon Lake, he met with Indians fishing for sturgeon (p. 254 ;) sturgeons were taken in the Beaver Lake (p. 262.) This race of sturgeons were probably left by the salt or oceanic waters, when it drained off, and left the lakes fresh and unsalted.

There is a remark of an etymological kind which we cannot refrain to note. It is the similarity between the Chipeway tongue and the Saxon, in respect to the word *Michil.* This signifies great, and *Makkinac*, turtle ; hence Michillimakkinac denotes the *Great Turtle*, from the height of the centre, and a sort of resemblance it bears to the back of a tortoise (p. 37.) Thus *Michelgamate* signifies the great meeting of Parliament, &c. This remarkable coincidence of sound and meaning is worthy the attention of the curious.

We shall make one other observation before we close this entertaining volume. It relates to the sustaining of life, in times of extreme scarcity, by employing for food a species of *lichen*, called *waac*, by the Chipeways, and *tripe de roche* by the Canadians. This vegetable production grows upon the rocks on the mountains adjoining lake Superior. When boiled, it affords a mucilage as thick as the white of an egg. And though of a bitter and disagreable taste, yet it agrees with the stomach, and sustains life by its nutritious qualities.

Before we lay down our pen, we think it proper to remark, that, notwithstanding the long delay of Mr. Henry in printing his Journal, we have perused it with much pleasure and with considerable information: and we have no doubt our readers will read it with similar sensations, especially when we inform them that there we have passed over unnoticed many of his perilous adventures, and many remarkable particulars of the Indians and their country.

OBSERVATIONS *on the Epidemical Diseases of Minorca, from the year* 1744, *to* 1749: *to which is prefixed a short account of the climate, productions, inhabitants and endemial distempers of Minorca. By* GEORGE CLEGHORN, *M. D. Professor of Anatomy in the University of Dublin. With Notes, by* Benjamin Rush, *M. D. Professor of the Institute and Practice of Medicine in the University of Pennsylvania.*—Philadelphia.—Nichols. 12mo. 1809.—pp. 184.

AMONG the recent labours which dignify the mature judgment and experience of the venerable Professor of Medicine at Philadelphia, and which will endear his memory to posterity, we find him engaged in selecting some of the best practical works for re-publication in America, enriching their pages with critical and illustrative notes, and thereby adapting them more completely to the peculiarities in the diseases of the country in which his long practice has been exercised.

No physician, who is competent to judge of the comparative value of books, can refuse his approbation of the choice. His edition of Sydenham we have already presented to our readers. Cleghorn now comes under our view; and hereafter the writings of Pringle will require similar notice. If there are any names in the profession, of modern times, which deserve to be pre-eminently venerated as original observers and recorders of facts, and whose works are entitled to be read, studied and commented upon, they are precisely the works which have been chosen for this purpose. No man, who devotes his attention to diseases, can excuse a neglect of books which are so richly stored with facts, and are so well calculated to guide his steps in the difficult emergencies of practice.

The merits of the modest, diligent and ingenuous Cleghorn, have been too well established and mellowed by time, and by the verdict of all the most enlightened men of the profession, to stand in need of any encomium on the present occasion. We may be permitted, however, to remark, that the shores of the Mediterranean, which, both insular and continental, have exhibited so many interesting scenes and events in the history of mankind, in different ages, are peculiarly instructive on the subject of diseases; and especially instructive to us in the United States, as they display a similarity and almost an identity of morbid phænomena, which demand our attention much more forcibly than those of the more northern parts of Europe. In perusing the writings of original and accurate observers in that part of the world, we almost feel that we are at home, and are considering what often passes under our own view. Cleghorn, therefore, observing febrile diseases in the island of Minorca, lying nearly in the same parallel of latitude with ourselves, is fairly worth a score of equally able observers in Great Britain, or in the corresponding latitudes of the European continent.

As it would be a trite subject to attempt any particular account of the work, we shall content ourselves with giving that general view of it, and of the life of the author which is exhibited by Dr. Rush, in his dedication to the students of medicine in the University of Pennsylvania.

"The following work contains a greater mass of practical knowledge in a small compass, than any book perhaps of the same kind in medicine. It has passed through many editions, and it now occupies a place in the libraries of most of the physicians in the British empire. Its merit consists chiefly in the number and importance of its facts, which afford the surest passport of a medical book to present and future generations. The notes which I have added to this first American edition of this valuable work, are intended to point out a few of its errors, but chiefly to impress those remarks, upon your minds, which accord with the diseases and mode of practice that are common in the United States. The notes to which I allude, are distinguished from those of the author, by the references being made by means of the letters of the alphabet.

"Permit me to recommend to your imitation the same practice in improving the science of medicine, which has

been pursued by the author of this work. It consists, as you will perceive, in delivering diseases from the insulated place they held in systems of nosology, and connecting them with climate, season, aliments, drinks, dress, and national manners. To enable you to imitate our author with success, it will be necessary to record facts as they occur. "Studium sine calamo, somnium," said the Latin poet. The same thing may be said of the most extensive practice, where notes are not made of diseases. A correct knowledge of them, however strongly impressed upon the mind at the time they are seen, will pass out of the memory like a dream in the course of a few years. By recording the facts which relate to them, the extremes of youth and age may be made to meet in a middle point, or in other words, the benefits of long experience may be anticipated in early life. The book now in your hands is a proof of the truth of this remark. It was composed and published before the author had attained the thirty-fourth year of his age.

"In compoing the notes which I have added to this work I have taken it for granted that you are acquainted with the principles of medicine which I have taught in the university of Pennsylvania, and of course I have omitted an explanation of them in the occasional references I have made to them.

"I shall conclude this dedication by subjoining the following account of the life of our author extracted from Dr. Benjamin Hutchinson's Biographia Medica, from which you will discover some other of the means, besides those that have been mentioned, by which he acquired his knowledge and reputation in his profession.

"Dr. George Cleghorn was born of reputable parents at Granton, in the parish of Crammond, near Edinburgh, on the 18th of December, 1716. His father died in 1719, and left a widow and five children. George, who was the youngest son, received the rudiments of his education in the grammar school of Crammond, and in the year 1728, was sent to Edinburgh, to be further instructed in the Latin, Greek, and French; where, to a singular proficiency in these languages, he added a considerable stock of mathematical knowledge.

"In the beginning of the year 1731 he resolved to study physic and surgery, and had the happiness of being placed under the tuition of the late Dr. Alexander Monro, a name

that will be revered in that university, as long as science shall be cherished and cultivated. This great professor was esteemed by all, but especially by those who were more immediately under his direction. It was the lot of young Cleghorn to live under his roof; and, in one of his letters, his pupil appeared to dwell with peculiar pleasure upon this circumstance, observing that 'his amiable manners, and unremitting activity in promoting the public welfare, endeared him to all his acquaintance, but more particularly to those who lived under his roof, and had daily opportunities of admiring the sweetness of his conversation, and the invariable benignity of his disposition.' For five years he continued to profit by the instruction and example of his excellent master, visiting patients in company with him, and assisting at the dissections in the anatomical theatre; at the same time he attended in their turn the lectures in botany, materia medica, chemistry, and the theory and practice of medicine; and by extraordinary diligence he attracted the notice of all his preceptors.

"On Dr. Fothergil's arrival from England at this university, in the year 1733, Dr. Cleghorn was introduced to his acquaintance, and soon became his inseparable companion. These pupils then studied together the different branches of science under the same masters, with equal ardour and success; they frequently met to compare the notes they had collected from the professors, and to communicate their respective observations. Their moments of relaxation, if that time can be called relaxation, which is devoted to social studies, were spent in a select society of fellow-students, of which Fothergill, Russel, and Cuming, were associates; a society since incorporated under the name of the Royal Medical Society of Edinburgh.

"Early in the year 1736, when young Cleghorn had scarcely entered into his twentieth year, so great had been his progress, and so high a character had he acquired, that, upon the recommendation of Dr. St. Clair, he was appointed surgeon in the 22d regiment of foot, then stationed in Minorca, under the command of general St. Clair. During a residence of thirteen years in that island, whatever time could be spared from attending the duties of his station, he employed, either in investigating the nature of epidemic diseases, or in gratifying the early passion he had imbibed for anatomy, frequently dissecting human bodies, and those

of apes, which he had procured from Barbary, and comparing their structure with the descriptions of Galen and Vesalius. In these pursuits he was much assisted by his correspondent Dr. Fothergill, who, he acknowledges, was indefatigable in searching the London shops for such books as he wanted.

" In 1749 he left Minorca, and went to Ireland with the 22d regiment, and in the autumn of 1750 he went to London, and, during the publication of ' The Diseases of Minorca,' attended Mr. Hunter's anatomical lectures. In the publication of his book he was materially assisted by Dr. Fothergill. Of this work the following eulogium has been pronounced by a competent judge: ' It forms a just model for the imitation of future medical writers ; it not only exhibits an accurate state of the air, but a minute detail of the vegetable productions of the island, and concludes with medical observations important in every point of view, and in some instances, either new, or applied in a manner which preceding practitioners had not admitted.' It is a practice for which we stand indebted to Dr. Cleghorn, to recommend acescent vegetables in low, remittent, and putrid fevers, and the early and copious exhibition of bark, which had been interdicted, from mistaken facts, deduced from false theories.

" In 1751 the doctor settled in Dublin; and, in imitation of Monro and Hunter, began to give annual courses of anatomy. A few years after his residence in Dublin he was admitted into the university as lecturer in anatomy. In the year 1784 the college of physicians of that city elected him an honorary member ; after which, from lecturer in anatomy, he was made professor, and had likewise the honour of being one of the original members of the Irish academy for promoting arts and sciences, which is now established by royal authority. In 1777, when the royal medical society was established at Paris, he was nominated a fellow of it.

" About 1774, on the death of his only brother in Scotland, he sent for his surviving family, consisting of the widow and nine children, and settled them in Dublin under his own eye, that he might have it more in his power to afford them that protection and assistance of which they might stand in need. His eldest nephew, William, he educated in the medical profession ; but after giving him the best educa-

tion which Europe could afford, and getting him joined with himself in the lectureship, the doctor's pleasing hopes were unfortunately frustrated by the young gentleman's death which happened about the year 1784.

" Dr. Cleghorn, with an acquired independence, devoted his moments of leisure to farming and horticulture. But his attention to these employments did not diminish his care of his relations, who, from a grateful and affectionate regard, looked up to him as a parent: the duties of which station he so tenderly supplied, as to induce Dr. Lettsom, from whose memoirs this account is taken, to apply to him the words of Horace, 'Notus in fratres animi paterni.' Dr. Cleghorn died in December 1789."

MEDICAL AND PHILOSOPHICAL INTELLIGENCE.

DOMESTIC.

Preparation of Sea Salt from Ocean Water.

BY an act of Congress passed August 10, 1790, salt was charged with a duty of 12 cents the bushel of 56 lb. when imported into the United States in a national vessel; and ten per cent. additional, when imported in a foreign vessel. By an act passed July 8, 1797, an augmentation of eight cents was made. This duty of twenty cents the bushel operating upon 3,000,000 bushels of salt imported from abroad, and consumed in the country, added half a million of dollars to the public revenue. Congress, however, decided by their act of March 3d, 1807, conformable to a suggestion in the President's message, that a duty on salt was unnecessary and improper, and they discontinued all further collection of it, by remitting such an amount of revenue, sure and easy as it was, by a repeal of the duties. Salt has accordingly, since June 1st, 1807, been imported free from duties.

Repeatedly, in the course of our work, have we mentioned the trade and manufacture of salt. (See our vol. 6, p. 219; vol. 7, p. 83; vol. 8, p. 212; and vol. 12, p. 285.) We now notice that important subject again.

Experience has taught that salt can be made to crystalize from ocean water in the latitudes north of 40°, by spontaneous evaporation. At Sag-Harbour, on Long-Island, this is effected upon the plan pursued for eight or ten years near Cape-Cod, and described in our vol. 6, p. 219, and vol. 11, p. 275.

Captain Crowell made the first trial, near Sag-Harbour,

and succeeded perfectly. The salt he made was beautiful and excellent. But his works were small.

During the season of 1809, Mr. Stephen Mitchell began the erection of salt-works, upon a large scale, upon Hog-Neck, in the neighbourhood of the former. The evaporating vessels or pans stand near the shore, in a very favourable situation, sufficiently above the rise of the tides. They are not formed of earth, nor are they contiguous to its surface. On the contrary, they consist of wood; and are raised high enough to permit a free circulation of air beneath them. The material is plank; and each vat or reservoir is supported on posts or studs fixed in the ground. The salt preserves the vats and posts from decay. They require no painting; and they seldom need repairs. Impregnated by such a strong antiseptic, the wood retains its soundness for a great length of time.

The water of the bay or ocean is first received into a natural bason, by influx of the tide; here it rests, and deposits a portion of its slimy, animalcular and feculent matter. Being so far purified, it is raised through a pump about twenty feet into the first vat or pan. The moving power of this pump is the wind, and the sails as they revolve, work the piston by the simple medium of a crank.

There is a succession of these evaporating pans. The one which receives the salt-water immediately from the pump is higher than any of the rest. The consequence of this arrangement is, that the fluid can be conducted from one reservoir to another, without any labour. By merely opening a sluice, or pulling out a plug, it descends from the first to the second by its own gravity, falling a few inches as it enters each succeeding receiver. The depth of the water is about four inches.

In this series of exposure to the joint action of air and sunshine, the water goes off rapidly by evaporation, and the salt shoots into the most pure and elegant crystals. Being nearly an unadulterated muriate of soda, it possesses in the highest degree the properties of that neutral salt.

To prevent the inconvenience that would arise from rain, sheds or roofs, moveable upon wheels, are disposed in such manner as to cover the pans at the shortest notice. Therefore, on the appearance of a shower, and during the continuance of foul weather, the pans are completely sheltered, and the rain-water conducted away. So easily are these

roofs moved backward and forward, that a single man can, in half an hour cover, or uncover all the pans of an extensive salt manufactory.

The advantages of this mode of preparing salt are, that very little labour of man or beast is required; that the works when once established, need very little repair; and that the salt is of a superior strength and purity.

After the crystallization of the common salt, the residuary water, if kept until the cool season of autumn or winter, affords, by a further crystallization, a large quantity of glauber's-salt. These parcels of this, sent to market from the different salt-works, added to the quantity brought there from other sources, have glutted the demand for sulphate of soda.

This is a summary of this interesting establishment. It might in all likelihood, succeed at the salt springs in the interior country. There it is the custom to promote evaporation by fire. This is troublesome, and in process of time, it is probable the supplies of fuel will fail. Perhaps it will be no misfortune, that the forests should be exhausted; for then salt of greater excellence, than is now made by boiling, will be prepared by spontaneous exhalation.

It was apprehended that the discontinuance of the duty would have broken up these manufactories along the sea-coast. But the commercial embarrassments which have existed ever since the repeal, have encouraged them more than the impost of twenty cents a bushel.

Melting Snow, a good remedy for Scalds.

The refrigerating practice in scalds, is recommended by Dr. M'Dowell of Baltimore, in a case related in a letter, to Dr. Mitchill, dated 17th Feb. 1809, of which the following is an extract.

On the 22d of January ult. Mrs. ——— had put some molasses and butter, in a plate or dish, on some coals to boil. It had been recommended by some person as a remedy for hoarseness produced by a catarrh. When it had boiled sufficiently she had the dish removed to a bank of snow, in the yard, to be cooled.—In a few seconds, she saw the dish sinking so fast, at one part of its base, that she thought

her preparation would be lost. In order to recover a level in the dish, she hastily applied the fingers of her right hand to its edge. In the act of doing this, the dish sunk so rapidly, as to pour its boiling contents into the palm of her hand. As she had no person to send for me immediately, a considerable time elapsed before I saw her. In the mean time, she applied *brandy* to the part which certainly aggravated her sufferings. I found her in extreme agony; a complete vesication had taken place on her fingers, anteriorly and posteriorly. Rugæ were produced in the cuticle on the palm of the hand. The palm was the seat of her greatest pain. I immediately had her hand immersed in a wash-bowl of *cold* water, and ordered a quantity of snow to be brought to me. I sat beside her for *five* hours, frequently adding snow to the water. After this lapse of time, the pain was so much lessened, that she could keep her hand out of the water for a few minutes; but was obliged to put it in the water again. I now left her, requesting her to place the bowl, containing water and snow, on a chair at her bed-side, in order that she might have recourse to immersion during the night. Perhaps medical advice was never more strictly attended to; for when I visited her next morning, she told me she had frequently endeavoured to keep her hand in her bosom, during the night, but *severe* pain would not permit; and soon after immersing her hand in the cold water, she dropt asleep. Pump water *now* relieved her from pain without the addition of snow. In *twenty-four* hours after the accident took place the cold application was discontinued, and my patient *never* experienced a return of pain. I punctured the vesicles on the fingers with my lancet, in order that the liquid might escape; but as a principal object with me was to save the *cuticle*, I made the punctures small. To prevent the dried cuticle from becoming an irritating cause to the tender parts underneath, I kept it constantly softened with sweet oil. My patient's hand recovered without losing any cuticle, during the cure, and without producing a *particle* of *pus*.

I hope my medical brethren will not throw "cold water" upon my *refrigerating* mode of curing scalds, because it does not *smell* of the shop. I do not pretend to say that it is a remedy which will admit of *universal* application; but unless some peculiar situation of the patients' system should

forbid it, I am confident a perseverance in its use, a *sufficient* length of time, will be pleasing to the physician as well as his patient. It is true the remedy may, in many cases, lessen the physician's *bill;* but in *all cases* it will very much *abridge* the sufferings of his patient.

Improved method of ascertaining Diseases of the Chest or Thorax, communicated by Dr. B. Warden, Esq. to Dr. Mitchill.

M. Corvisart has lately published a translation of *Avenbrugger's* work, concerning the method of ascertaining the internal maladies of the chest, by the percussion of this cavity, and has given a commentary more extensive than the text. This production has been long expected, and is said to be the result of twenty years observation and experience. The author claims no other merit than that of reviving and recommending the discovery of *Avenbrugger*, which, notwithstanding the support it received from Stoll and others, was soon forgotten. Having perused this work, I was struck with its novelty, and being occasionally employed last winter, in anatomical dissections, in the amphitheatre of Professor Dumeril, I had an opportunity of trying this experiment on a number of subjects, and found that when the sides of a healthy thorax are struck with the palm of the hand, the sound is totally different from that of a thorax struck in the same manner, of which the lungs are disorganized, or the heart larger than in the natural state. When the thorax is free from disease, M. Corvisart compares the sound to that of a drum, covered with cloth, when struck in the same manner. If there is a tumour or abscess in the chest, the sound is very different, and it diminishes, or is scarcely heard in those parts that are much diseased. This is evidently owing to a diminution of the quantity of air contained in this cavity, or to a want of dilatation in the cellular tissue of the lungs. M. Corvisart thinks, that some of the propositions advanced by *Avenbrugger*, are susceptible of certain modifications. For example, a diseased liver may change, or even destroy the sound of the right side of the thorax by the augmentation of volume it sometimes ac-

quires. Abdominal affections produce, sympathetically, or mechanically, a derangement in the functions of the thoracic viscera. M. Corvisart is, however, of opinion that the number of diseases of the chest, which are not indicated by an unnatural sound, are fewer than might be imagined. He is a warm advocate for this method of ascertaining the existence of a disease so fatal to youth, of which neither the eye nor touch affords an indication. This may be a serious article of medical information to the physicians of the United States, who have, unfortunately, too frequent opportunities of making experiments on living subjects, and of verifying or contradicting the observations of Avenbrugger and his learned commentator.

Powerful Effects of the Galvanic Pile: communicated by the same.

The voltaic pile belonging to the Polytechnic School in Paris, is composed of 600 plates of copper and zinc, which are fixed in wooden frames, at small distances from each other, leaving a sufficient space for the acid liquor which determines the electrical current. Lime, exposed to the conductors of platina, which communicate with the two poles of the pile, assumed the appearance of a very red flame. Barytes emitted a vapour which affected Mr. Gay-lussac, who held the conductors. The action of the pile was at first manifested by sparks and combustion. Wire of iron and of platina, which served for conductors, burned with rapidity in atmospheric air. In 12 or 15 minutes the pile begins to lose its activity. Some individuals received a shock of the pile which strongly affected the body.

Appearances on Dissection after death by Apoplexy: communicated by the same.

The body of the distinguished Dr. Cabanis, (whose death, occasioned by the 4th stroke of apoplexy, I announced to you in a former letter,) was opened and examined by some of the members of the college of medicine. "The left "ventricle of the heart had three times the volume and "force of the natural state. The sides of this muscular

" cavity were more than inch thick, so that there was an " evident disproportion between the power of this central " agent of impulse, and the rest of the machine. The " ventricles of the brain contained about eight ounces of " coagulated blood. The irruption was so violent that the " partition of the *septum lucidum* was broken, and certain " evidences of the substance of the brain in a state of dis- " organization." *(Journal de Medecine, Chirurgie, &c. par Corvisart et Boyer.)*

Cabanis is most sincerely regretted by the friends of medicine and of philosophy. It is said, that some time before his illness he had decided to devote the greatest portion of the rest of his days, in finishing the picture, of which he gave a rough sketch, under the title of *Coup d'oeil sur les Revolutions et sur la Reforme de la Medecine.*

PARIS, 20th July, 1809.

To the Editors of the Medical Repository : communicated by D. B. Warden, &c.

Some curious experiments have been lately made in animal physiology, on the principle and seat of sensation and motion in reptiles and *mammiferes*, by Dr. Le Gallois. He decapitated rabbits, at the moment of their birth, and saw that the trunk continued to feel and to move, and the head to gape for 12 or 15 minutes. He, at the same time, observed, that all the phenomena which the trunk presented, were, in their nature and duration, the same as if the animal had been asphyxied by submersion in water, with this difference only, that the headless trunk made no effort of inspiration. This led him to suppose that it lost its motion and sensation by asphyxia, as respiration was impossible. If this were so, pulmonary inflation ought to restore it to life. This was verified by experiment. Sensation, motion, and all the signs of life were manifested by blowing air into the lungs every 12 or 15 minutes after their total disappearance. The experiments were made on rabbits, cats, frogs, and salamanders, and were repeated, with complete success, in the presence of the professors of the medical school of Paris.

The duration of life, depending on pulmonary inflation in decapitated rabbits, was found to depend on their age. The day of birth it was 30 minutes; the 5th day, 17 minutes; the 10th, 10 minutes; the 15th, 7 minutes; the 20th, 6 minutes, and the 60th, 4 minutes.

If the spinal marrow be destroyed by the introduction of a probe into the vertebral canal, life instantly disappears and cannot be restored by pulmonary inflation.

Dr. Gallois is therefore of opinion, that the principle of sensation and motion in the trunk comes from the spinal marrow, and not from the brain; that the nerves are its conductors:—that they draw it even from the place where they originate, but that the nerves on which depend the mechanical phenomena of respiration, borrow the principle of their action from the brain, and not from the spinal marrow, notwithstanding that they seem to originate from this marrow. That if this first cause of respiration, which in dogs, cats, and rabbits, he found to exist in the *medulla oblongata*, were retarded in the spinal marrow, these animals would live without head, and would not often perish, in this case, but from inanition. But to live without a head two conditions are necessary; 1st. The organ, where resides the first cause of respiration, must remain entire during and after decapitation. 2d. The hæmorrhagy must not be violent, so that the circulation may preserve a certain activity not only in the rest of the body, but particularly in the organ in question; conditions which are almost impossible to exist in warm-blooded animals, though they may be easily obtained in those of cold blood.

He supposes that the principle of sensation and motion, which resides in the *medulla oblongata* and spinal marrow constitutes personally the *being*, and that the rest of the organization of the animal serves only to put this principle in relation with exterior objects, or to prepare and furnish it with arterial blood necessary for its renewal or support: that this principle is as durable as the spinal marrow itself; and that it is the chemical alteration of the blood, or the cessation of the circulation in the marrow, which produces its extinction.

The School of Physic, opened at Fairfield Academy, in Herkimer County, (N. Y.) with its rapid progress and growing prospects.

On the 10th Feb. 1810, the memorial of the *Trustees of Fairfield Academy*, in the county of Herkimer, was read in the House of Assembly, praying the aid of the Legislature (then sitting at Albany) towards increasing the funds of the said institution.—The memorial was referred to a select committee, consisting of Mr. *Mitchill*, Mr. *Cady*, and Mr. *Manley*.

Feb. 13, Mr. *Mitchill* reported, that it appeared to the committee, from an inquiry into the matters set forth in the memorial, that a valuable institution for literary purposes, had for some time existed at that place; and that of late there had been added thereto, a school for instruction in medicine, and the auxiliary sciences. The exertions of the Trustees appeared laudable, and worthy of public patronage. The committee had therefore instructed their chairman to submit their opinion to the House, favourably to the prayer of the memorialists, and to ask leave to bring in a bill "*for the better support of Fairfield Academy.*"

The mode of relief proposed by this bill was to raise a sum for the completion of the buildings, and for the accommodation of the medical professors, by means of the powers granted to the undrawn classes of the lottery for the endowment of Union College. Though this bill was supported with zeal and earnestness by the mover, the house was, at that time, averse to granting the aid solicited, in the manner proposed. It was accordingly declared by a large majority that the bill should not pass.

Afterwards, however, Judge *Smith*, of the Senate, or some other member of that body, favourably inclined towards the institution, moved a section to be annexed to the general supply bill, granting five thousand dollars to the Trustees. This money is to be raised by the managers of "the Lottery for the promotion of Medical Science," and paid over for the benefit of *Fairfield Academy*. The appropriation is *specially for the support of the Chemical and Anatomical School under their superintendence.*

That the public may form some tolerable idea of this thriving seminary, the best document we have seen, to wit,

the President's letter to the chairman of the committee, is offered to their examination. From this they will learn that a large and commodious building, with furniture and apparatus, and a class of near *sixty* students, already adorn the left bank of the Mohawk.

President Alexander's Letter, addressed to the Hon. Samuel L. Mitchill, *dated*

" FAIRFIELD, January 24, 1810.

" SIR,

" Allow me to draw your attention to the following remarks. You may recollect that I had the pleasure of seeing you in New-York, about eighteen months since, and that you aided me in purchasing some articles belonging to a chemical apparatus; and as you are famed for being a friend to science, and to chemistry in particular, it will please you to be informed, that our progress has been very great in carrying our plan into effect. We have a handsome chemical apparatus. Dr. *J. Noyes*, whom you saw in New-York last fall, is our professor of chemistry. Dr. *W. Jacobs* is professor of anatomy. They have had fifty-eight pupils in the course of the last season. Our laboratory of stone is 63 by 38, and 30 feet high; the chemical room is 30 by 36, and 18 feet high; the anatomical room is 30 by 30, and 12 feet high, with a large sky-light over the centre. We have twelve other convenient rooms for the accommodation of the professors, and medical students.

" We wish to extend our plan, so as to become more useful to the western district in this state. But we are deficient in funds. To supply this deficiency, the trustees have sent a petition to the Legislature, praying to grant pecuniary aid. The aid, if obtained, is to be sacredly applied to the promotion of medical knowledge solely.

" As you fully know the importance and utility of medical science to the health and happiness of the community, and as your sentiments on the subject will have great influence on the minds of the judicious and liberal, may I solicit you to appear in the Legislature as an advocate of our petition? Your influence will to us be highly beneficial.

" Should we succeed, a foundation may be laid, in our in-

sitution, to furnish the minds of young men with the rudiments of chemistry, anatomy, and other branches of the healing art, so that they may apply to the college of which you are a member and a leading professor, to complete their education. And we should, unquestionably, be able to send you some, every year, of this description.

"This is the subject in detail. To add more is needless.

"Depending on your friendship, and your vigorous exertions to diffuse useful knowledge, I have presumed to commit these remarks to paper, confident that you will give them all the attention their importance may demand.

"Accept my duty.

"C. ALEXANDER."

Building in Pisè, recommended as being greatly cheaper than brick or stone, for small houses in the country.

The Sieur Cointeraux, of Paris, Rural Architect, has addressed a letter of a very late (March 24, 1808) date, *to the Society, for the encouragement of arts in New-York.* He solicits the attention of the members to the construction of houses, cottages, and buildings of all kinds, from artificial stones, formed from sand and gravel, by the simple operation of pounding and ramming. The factitious materials, formed in this easy manner, are compact enough for any house or barn of moderate size, and sufficiently durable to last a great length of time.

Mr. C. assures the public that he has made capital improvements in this important art. And he urges the adoption of them, in all places where it is an object to guard against fire, and more especially where timber is scarce, stone is dear, and brick hard to be got. He has accompanied his epistle with two pamphlets, explanatory of his mode of construction. Herein he censures the objections that had been made to his method; and by various plates and figures shows how an entire surface of Pisè-wall may be painted in fresco, and be decorated with great taste. He in short concludes, that the requisites in edifices, strength, convenience and beauty, may be combined perfectly in structures of these extemporaneous materials, which in addition to their firmness and incombustibility, have the advantage of

being formed out of the soil itself, upon the spot where it is wanted for use.

Such persons as do not read French, and may not have it in their power to see Mr. C.'s publications, may find much information upon the subject in Mitchill and Miller's Medical Repository, vol. 8: in Johnson's Treatise on this art, published in New-York about four years ago; and in Livingston's memoirs, contained in the last volume of the transactions of the New-York Society at Albany, during the current year, p. 165.

Blood-Letting to the amount of fifty-seven pounds troy.

A communication from Dr. John R. Lucas, of Mecklenburgh, Virginia, published in Ritchie's Enquirer, printed at Richmond, relates a remarkable instance of the violence and obstinacy of acute inflammation, which is not unworthy of notice. The patient was captain James Niblett, of the same county, a man of 30 years of age, of a full and plethoric habit of body, when in health, and accustomed to daily exercise on foot, of a bilious aspect." His complaint was an inflammatory affection of the lungs. Dr. Lucas visited him at intervals from the 29th of May last to the 8th of August, 1809; during which period, blood-letting was almost the only remedy prescribed. Emollient medicines were administered during the time, but merely for the purpose of harmonizing the state of the bowels, and preventing costiveness. Depletion seems to have been, from first to last, relied upon by Dr. Lucas; and the result of the lancets' reiterated application afforded the most ample testimony of its efficacy. The loss of blood sustained by Mr. Niblett was truly astonishing; and we subjoin an account of it in the words of Dr. L. himself, from the 28th of May to the 26th July. Captain Niblett, (observes Dr. L.) lost by measurement 600 oz. blood, and by weight *688 ounces, 6 drachms—being it is presumed, the largest quantity ever drawn from the veins of any human being in the same length of time by medical advice; and for the person to bear it and do well. He was bled fifty different

* An ounce of blood by measure weighs 9 drachms and 11 grains.

times, and the blood every time was covered with a thick strong, white coat; and he lost from 4 to 20 oz. each time. He was cupped, and had leeches applied daily for seven weeks, exclusive of bleedings at the arm and the discharge from the seton.

Antispasmodic effect of Alcoholic Spirit and Opium.

The following cases of the abatement of spasms in consequence of the administration of distilled spirits and opium, were communicated by Dr. George W. Case, of Hopewell, (N. J.) in a letter dated Sept. 1, 1810.

Permit me, through the medium of the Medical Repository, to draw the attention of Physicians to a very useful remedy in tetanus, by giving the abridged history of two cases that occurred in my practice. I. W. a robust plethoric man, received a wound on his hand, in the angle between the thumb and fore-finger. Soon after the wound was cicatrized, I was called upon to visit him, and found many of his muscles affected with spasmodic rigidity. I then examined the scar, which appeared very irregular, and as if the sides of the wound had not been properly approximated while healing. I administered opium, but it did not prevent the continuance and even the increase of the spasms, although administered pretty freely; as I was aware that relief was to be expected only from large doses. I then determined to subjoin ardent spirits; and some distilled from cider being at hand, I gave that to him warm, in portions of a gill or half pint repeated, so that he drank two quarts the first 12 hours, and took 12 grains of opium, at several portions, during the same time. This treatment very soon visibly had a good effect, the spasms being removed in a few hours; though he continued in the use of the medicine, but in smaller portions, several days, to prevent a relapse. After he was apparently well, and was about, he was seized in the same manner again, and relieved by the same treatment; but after being free from the symptoms about two weeks, they returned on him again, and were relieved in the same manner. I then enjoined a gradually diminishing continuance of his remedies for two weeks. He recovered, and did not relapse again. W. G. a robust man having been ex-

posed to night air, after great fatigue, was seized with violent spasms of the muscles of his lower limbs and abdomen, which were contracted and rigid to an extreme degree. He took warm proof spirits with opium dissolved in it, in the proportion of a grain to a gill. I think he took three pints of it in four hours, with the effect of entirely removing the spasm. He continued the spirits in smaller quantities two or three days and recovered.

Use of the Thermometer to determine the approach of a Ship to Ice Islands, and Shoals at Sea. In a letter from FRANCIS D. MASSON, *Esq. to Colonel* JONATHAN WILLIAMS, *Commandant of the corps of Engineers, and Author of* "Thermometrical Navigation," *at New-York, dated*

"CLIFTON, (Eng.) 20th June, 1810.*

"My voyage from New-York to Halifax, in the British Packet Eliza, was so very tempestuous and unfortunate (having carried away our foremast,) that I did not make any thermometrical observations; but when we sailed from Halifax, on the 27th of April, I began them, and continued till I unfortunately broke both my thermometers. However short the time was, you will perceive that my observations have been very important, and I herewith send the result of them. You will perceive with what fidelity the thermometer indicated the banks and the approximation towards islands of ice. The captain was so convinced of the usefulness of the thermometer that he made regular remarks, and inserted them in his journal. I gave him one of your books thinking it would be pleasing to you that I should extend the knowledge of a discovery so useful as yours, and I wish it were more generally known. After having miraculously escaped the islands of ice and several severe gales, we arrived at Falmouth on the 22d of May, 1810."

* For Mitchill's attempt towards a history of Ice-Islands, in the Northern Atlantic Ocean, see our vol. 8, p. 443, and vol. 10, p. 223, 235, and *ibid.* p. 410. And for a review of Williams's tract on Thermometrical Navigation, consult vol. 11, p. 408—410.

A THERMOMETRICAL JOURNAL

From Halifax towards Falmouth, in the British Packet Eliza.

Dates.	Hours. A. M.	Hours. P. M.	Heat of Air.	Heat of Water.	Latitude N.	Longitude W.	Remarks.
April 28	10		44°	40°			
		1	47	41	43° 30′	60°52′	
		4	43	42			Sable Bank,
		8	46	40			
29	8		45	43			
	Noon		49	48	42 27	60 54	
		5	50	62			
		7	48	64			
		10	48	54			Tacking towards edge of stream. Steering in the stream.
30	9		58	62			
			60	61	42 1	59 2	
		5	58	61			
		9	60	60			
May 1	8		60	58			
	11		60	46			Sound in 70 fathoms no bottom; the water at that depth 2 degrees warmer than on the surface.

		2	64	52	41	53	56	52	
		3	62	46					An Island of Ice, bearing S. S. E. 7 miles.
		4	58	47					Abreast of ice 1-4 mile to leew'd.
		5	60	47					Island of Ice bears S. S. W. 7 miles.
		6	57	45					
			56	48					
2	1		58	50					
	3		60	60					
	8		60	62					
	10		63	63					
	Noon		64	63	41	25	53	8	
		3	61	64					
		6	62	58					Sound with 70 fath. no bottom
		9	56	56					
		12	50	56					Sound with 80 fath. no bottom
3	4		43	43					Sound with 80 fath. no bottom
	6		40	39					An enormous Island of Ice abreast 100 yards. This was about 150 feet high, and one mile in diameter. When first discovered, it was not 100 yards from the vessel, and we were sailing directly towards it—The obscurity was then so great, that at that distance it ap-

									peared only like a white cloud extending from the sea over our masts.
		8		41	44				Passed several Islands of Ice, the largest bearing S. W. 7 miles.
		10		43	45				No bottom by 80 fathoms.
		Noon		44	43	42	1	50	4
			4	44	50				
			6	46	60				
		Midnight	12	46	60				
4		4		46	52				
		8		43	60				
		Noon		54	59	42	54	46	2
			8	49	60				
			12	48	60				
5		6		47	59				
		Noon		53	59	43	12	41	43	Broke the Thermometers.

Remarks on the Foregoing Journal.

N. B. The important point of comparison, is the difference in the *heat of the water in different places*, in or near the stream, in the ocean, out of the stream, on the coast, and near Islands of Ice, not the difference between *the heat of the water and the air*, as some have imagined—This latter is merely a concurrent observation; it serves to account for ordinary changes, and thereby to guide the judgment.

From April 28, at 10 A. M. to April 29, at 8 A. M. we see the temperature of the sea in the shoals of Sable, from 40 to 43—At 5 P. M. we see the warm influence of the Gulph Stream from 62° to 64°—At 10 P. M. we see the temperature between the influence of the stream in deep water, and the coast, at 54°, which is about a mean between the two—then standing off shore, at 9 the next morning (30) we see the warm influence of the stream again.

If these stripes of water had been distinguished by the colours of white, red and blue, could they be more distinctly discoverable than they are by the constant use of the Thermometer?

About 23 hours afterwards (May 1, at 8 A. M.) we find the water cooling, and in 3 hours more the mercury falls 14 degrees (46°). Here no bottom could be found by the lead, and there was probably an Island of Ice obscured by fog. (Let it be remembered, that the coldness of ice condenses the atmosphere, and of course the consequence must be fog).—Passing this at 2 P. M. the Thermometer rose to 54°, but in one hour more it fell to 46 again, and an Island of Ice appeared at the distance of *seven miles*.—Let Navigators reflect on this, and say that a sudden fall of 6° in this part of the ocean, ought to induce them to haul to the southward, and keep a good look out.—From May 1, at 11 A. M. to the next morning at 1 A. M. we see the gradual changes as the ship passes the ice and comes again into ocean water (50°); but in two hours more, the ship is in the warm influence of the stream again, and the mercury rises 10 degrees (60). She proceeds in a nearly regular degree of heat during 17 hours, till at 6 P. M. the water begins again to cool, falling to 56° at midnight. Here was no bottom in 80 fathoms. May 3d, at 4 A. M. the water was at 43°, still no bottom in 80 fathoms. Now, from past

experience, we must say, here is an Island of Ice in a *less* distance than *seven miles,* because at that distance the water was at 46°. When day appears, behold an enormous Island of Ice abreast 100 yards, and the heat of the water reduced to 39°! A question now occurs,—had not the Thermometer been thus used, had it not been continued during the night, what would have been the fate of this ship?—Let the recollection of the miserable fate of the ship Jupiter, be an impressive answer; and let it be laid down as a maritime axiom, that want of caution, or ignorance, can alone cause such accidents in future.

JONA. WILLIAMS.

Copious Sources of Inflammable Air, in the western parts of New-York, and in Upper Canada, near Niagara.

(From Mitchill's Tour to Niagara.)

While at Chipeway, I was informed of an interesting mode that had been some time before adopted of entertaining company at the inn. This was by exhibiting the different experiments on inflammable air, that could be made with a very simple apparatus. I learned that this gas was a natural production of the neighbourhood, and rose spontaneously from the earth. I went to view the spot.

About ten rods from the shore of Niagara River, near where the Chipeway River empties into it, a stream of hydrogen gas rises through the water. It issues from a crevice in the rocky stratum, which forms the bottom. I went off in a boat, accompanied by two persons; and we were fortunate enough to find the place.

The gas rose in a constant stream, and ascended in the form of a rapid succession of bubbles through the water, which is there about five feet deep. And as its source is so far from the bank as to be within the current that sets northward towards the great cataract, the place where the bubbles burst in the atmosphere is not perpendicular to the place of their escape from the bottom, as would happen in still water, but oblique, on account of the draft of the stream.

It is a matter of curious speculation, what should give rise to the extrication of this gas, in such quantities here-

about. There was formerly another spot more famous for the evolution of inflammable air, nearer the falls. But in the improvement of the spot by art, for making the race-way of a mill it has disappeared, or rather has been covered so as to be no longer the subject of observation or experiment.

But these are not all. There are other places which emit streams of a similar nature. There is a fountain of inflammable air in Chatauge, N. Y. A description of this I shall insert in the form of an extract of a letter from Amasa West, Esq. to the Hon. Samuel Smith, of Pennsylvania, dated Chatauge, 15th Sept. 1808.

" Among the various instances of inflammable air found within the United States, may be reckoned the one lately discovered near lake Erie, in Chatauge-Town, and state of New-York. I shall attempt a concise description of it. Upon viewing this place, which has obtained the name of a burning spring, I found it not to be a spring from which issued water as I expected; but a narrow fissure of about one quarter of an inch wide, in a rock. From this crack, issued a current of air, ascending in a perpendicular direction, and distinctly to be felt to the height of ten or twelve feet.

" The name of the burning spring arose undoubtedly from the hydrogen gas which issues from a rock, partly within the bed of the creek, which covered the opening of this fissure, and produced an ebullition rather more considerable than that of boiling water.

" The gas, in making its escape, may at certain times be heard at the distance of one hundred yards. Its noise resembles that of water in the act of boiling, but proportionally greater. On applying a torch, the gas will often take flame, when the torch is no nearer than twelve inches. The flash is as quick as that of gunpowder, and the blaze rises to the height of two feet and a half. Near the fissure, where it first takes fire, the colour of the burning gas is bluish, and consumes without any appearance of smoke.

" This gas, when inflamed, will continue to burn for months in succession, unless extinguished by art, or by the overflowing of the creek. At the time that I visited the place, the creek was lower than perhaps was ever known before; and the persons who had visited the spot, had turned the water somewhat aside. The fissure or chasm was there-

fore perfectly dry. This gave me an opportunity of seeing the gas burn, without passing through water.

" When I went to this place, I was accompanied by Capt. M'Mahon and Mr. Wilkinson. We took a small tea-kettle, of the capacity of about three quarts, and filled it with water. We then placed it over the flaming gas, and found by accurate observation, that the water was boiling-hot in eight minutes and a half, in the open air. If the air had been confined, the operation would have been performed in a much shorter time. After this experiment, we filled the chasm with water. Then were produced the various agitations as before described. And on applying the torch, the gas burned with the same impetuosity as before. Yet the water in the creek may be so high as to prevent the gas from burning.

" In descending to the chasm, I perceived a disagreeable smell, which gradually increased the nearer I approached. This smell, it is said, is perceived sometimes to the distance of thirty or forty yards, and more nearly resembles the odour of stone-coal than of any thing I recollect. Though to some it savours of sulphur. The bed of the creek, for some distance from the fissure, is formed of a species of slate. There are several openings through which the gas escapes, though in so small a quantity, as only to flash a few times on the application of the torch, and cease for a while.

" The place at which these curious appearances are observed, is distant about three quarters of a mile from the mouth of Chatauge-Creek, and about forty perches from the shore of lake Erie. It is at present in the state of nature; but from the rapid improvement of the country, it is not probable it will long remain so."

Discovery of a new principle of Acidity.

Some further, and extraordinary discoveries in Chemistry, are contained in the following letter to D. B. Warden, Esq.

LONDON, *August* 7, 1810.

Sir,

I did myself the honour of sending you a few lines about two months ago, in which I thanked you for the able paper

on the analysis of the great meteoric stone. Your communication has been published in the Philosophical Magazine.

In the same note I requested you to have the goodness to correct an error in my last Bakerian lecture, as to the specific gravity of sulphurated hydrogene, which I rated too low. Within the last month I have weighed this gas with great care, twice. The average gives 33 5-10 grains for the 100 cubical inches.

Wollaston has lately read a paper to the Royal Society on a new species of urinary concretion which he names cystic oxide.

I have been pursuing my inquiries concerning the alkaline metals, and endeavouring to gain precise results upon some objects, which I had only slightly touched upon in my former communications. I have two or three decisive experiments against the idea of Potassium and Sodium being hydrurets; and a great mass of facts in favour of their being bodies as yet undecompounded.

I have read a paper to the Royal Society on the oxymuriatic acid, which is now in the press, and of which I shall do myself the honour of sending you a copy.

My principal conclusions are:—

1. That the oxymuriatic acid (as it is improperly named) is a simple body, belonging to the same class as oxygene.

2dly. That it combines with pure inflammable bodies in the same manner as oxygene; forming compounds which have properties analogous to acids and oxides, but which differ from them in being decomposable by water.

3dly. That its affinities for many bodies are stronger than those of oxygene.

4thly. That muriatic acid has for its basis hydrogene, and this gas (Scheele's gas, for to call it oxymuriatic acid is to create confusion) for its acidifying principle.

5thly. That phosphorus, sulphur, tin, arsenic, and many other bodies are acidified by this gas, and that they form acids capable of forming peculiar compounds with alkaline matter.

6thly. Ammonia neutralized by the compound of phosphorus and oxymuriatic acid gains fixity; and the combination has characters analogous to an earth, and is not decomposable by intense ignition.

The phlogistians supposed *one* principle of inflammability; the anti-phlogistians *one* principle of acidity, or solu-

tion: BUT THERE ARE CERTAINLY TWO ACIDIFYING PRINCIPLES KNOWN, AND OTHERS MAY BE DISCOVERED.

I shall at all times be happy to receive any communications with which you may be pleased to honour me; and remain, sir, your obliged and obedient servant, H. DAVY.

Botanical Intelligence.—The first volume of the new edition of "*Dr. Barton's Elements of Botany*," is in the press, and will certainly be published on or before the 12th of April next. The second volume will appear soon after. This edition is considerably improved and enlarged, by the addition of new plates, letter press, &c.

FOREIGN.

Letter from Dr. LAIRD, *Physician to the Public Dispensary, on the use of Rectified Oil of Turpentine in Tænia.*

IN consequence of the reference made by my friend and colleague Dr. Bateman, in the last report from the Public Dispensary, to the exhibition of the rectified oil of turpentine as a remedy in tape-worm, I am led to transmit, for insertion in the Edinburgh Journal, a statement of the two cases of that affection in which I have had occasion to direct its employment.

February 1, 1810.—John Dodds, middle-aged, a pearl-frame worker, states himself to have laboured under tape-worm for some years, and that the portions, which he has passed at different intervals, have come away from him alive.

February 5th.—Yesterday morning at nine o'clock, two ounces of the rectified oil of turpentine were administered to him at the Dispensary, fasting. He felt the medicine warm like a dram, and rising at intervals on his stomach, but experienced no sickness. About half after one, he had a scanty stool, of a clayey appearance, with some shreds resembling coagulated lymph. About two he felt giddy.

At three, when I visited him, his pulse was 120, and the giddiness extremely distressing, but he had no disposition to vomit, or pain in his bowels. He complained, however, of headach; his tongue was white, and his skin warm. As the oil of turpentine had produced no purgative operation, he was directed to take some castor oil, which by accident he did not get. At four he had a copious stool, with which a tape-worm (six yards in length) came from him, but dead, and, as he expressed himself, not so brilliantly white as what he used to void. He had within a short time three or four more stools, loose, and mixed with some shrivelled pieces of worm; but the giddiness, pain of his head, and thirst, with an unpleasant taste in his mouth, remained the whole of the evening.

His pulse is now (one o'clock P. M.) 84; his tongue rather white, and he complains of some thirst, of general lassitude, and considerable tremor on walking; he is however able to pursue his occupation. He has had no pain or uneasiness in his bowels, or difficulty in voiding his water. Skin soft and cool. One green-coloured stool this morning.

February 8th.—He took half an ounce of castor oil the day before yesterday, which procured several stools, in none of which was there any appearance of worm. He still complains of giddiness and some tremor.

In consequence of the continuance of the tremor and nervous debility, to which, on further inquiry, it appeared he had been liable previously to the use of the oil of turpentine, and the supervention of some other symptoms, probably wholly unconnected with its exhibition, he remained upon the list of patients for a considerable period, (not being discharged till April 16,) during which time he neither had return of the abdominal pains he formerly laboured under, nor did any worm appear in his motions.

April 19th, 1810.—Samuel Marsh, 28 years of age, by trade a shoemaker, has been for four years affected with tape-worm, which has repeatedly passed from him alive, in separate joints, and in connected portions, even without taking any purgative remedy; and not unfrequently single joints have come from him, while sitting at his work. He voided a portion of worm yesterday.

April 23d.—He took yesterday morning at the Dispensary, on a fasting stomach, two ounces of the rectified oil of

turpentine, without suffering any disagreeable heat of stomach or sickness from it. In an hour it operated as a brisk purgative. The stools consisted principally of a thick slimy matter, but there was, according to his report, no worm. During the day he experienced some giddiness, but to-day he is quite free from it, and has entirely lost the gnawing and abdominal pains, from which he had formerly had much distress. He stated that, in the course of the evening, he made much water and sweated considerably.

He continued to attend at the Dispensary, till the 17th of May, when, remaining entirely free from all uneasiness in his stomach and bowels, and there having been no appearance of worm, he was discharged.

Whatever opinion might have been entertained respecting the purgative operation of turpentine under its different forms, and particularly obnoxious to insects as the rectified oil has been long known to prove, yet its application to the removal of the parasitic inhabitants of the human intestines was but partially and imperfectly understood; and we were altogether ignorant that a fluid, possessed of such strong sensible qualities, and which had hitherto been employed in comparatively small doses, and with much precaution, could be administered in such large quantity with perfect impunity. It is to the inquiry instituted by Dr. Fenwick, with which, as has been already stated in Dr. Bateman's report, I became acquainted through my friend Dr. Southey of Durham, that we are indebted for the introduction of a very efficient addition to our anthelmintic remedies, while the repeated trials, which have been made, have fully determined the safety of the practice. As a communication on the subject has been laid before the Medical and Chirurgical Society by Dr. Fenwick, and the results of this mode of treatment, under the immediate superintendence of many practitioners in the metropolis, will probably be made public at no distant period, in the expected volume of the memoirs of the Medical Society, it is not my intention to enter into any detail of these observations. To the brief enumeration by Dr. Bateman of the principal facts connected with the administration of the oil of turpentine, I shall only add, that it has been given even to the extent of four ounces for a dose, without producing any manifest constitutional or local injury. It would appear that this remedy, which seems to act as a poison to the worm, is most effectual

when given by itself, in which state it is to many individuals not unpleasantly stimulating; and that the distressing symptom of strangury is more likely to occur, if it be employed in small doses, than when exhibited in sufficient quantity to ensure its purgative operation. It may therefore be a question to be determined by future experience, whether combining the oil of tnrpentine, or rather following up its employment with some active cathartic medicine, might not answer an advantageous purpose. There is, I think, reason to hope, that this remedy will also prove efficacious in expelling the other worms which infest the human body; while, from the quick relief which it gives to horses affected with the dry gripes or spasm of the intestines, it may perhaps be worth trying in such cases of colic as do not readily yield to the ordinary modes of treatment.

In adverting more particularly to the cases which are the immediate subject of this communication, we find in Dodds the efficiency of the remedy clearly proved, as well as its poisonous influence on the worm distinctly ascertained; for on former occasions, even when purgatives had been used, it uniformly came away alive, but now it was discharged dead, and so far differing in its appearance, as to attract his own attention to the circumstance. The purgative effect of the oil of turpentine was, however, slowly produced, and the giddiness and febrile disturbance were more considerable than is usually the case.

In the other instance, (that of Marsh) where joints of tape-worm had been passed only four days preceding the exhibition of the oil of turpentine, it is difficult to reconcile the non-appearance of any worm in the stools, with the subsequent freedom he enjoyed from all the painful feelings which had been previously experienced. Should we be authorised in conjecturing, that the action of the intestines on the dead worm might so far have broken its texture as to give only the thick slimy stools of which this patient spoke? To his report alone I was under the necessity of trusting; as at Dispensaries, the subjects of experiment are frequently less directly under inspection, than in Hospitals, or in private practice. It was on this account, that, in both instances, the dose of the remedy was administered at the charity, in order that one of the sources of fallacy in medicine might be avoided.

Edinburgh Medical & Surgical Journal.

Advantages of the Exercise of Gestation.

In his observations on the salutary effects of riding, &c. Dr. Wollaston observes that although the term *gestation* is employed by medical writers as a general term comprehending riding on horseback, or in a carriage, yet he suspects that no explanation has yet been given of the peculiar advantages of external motion, nor does he think that the benefits to be derived from carriage-exercise have been estimated so highly as they ought. Under the term exercise, active exercise has too frequently been confounded with passive gestation, and fatiguing efforts have been substituted for motions that are agreeable, and even invigorating, when duly adapted to the strength of the invalid, and the nature of his indisposition. His explanation of the effects of external motion upon the circulation of the blood is founded upon a part of the structure observable in the venous system. The valves allow a free passage to the blood, when propelled forward by any motion that assists its progress; but they oppose an immediate obstacle to such as have a contrary tendency. The circulation is consequently helped forward by every degree of gentle agitation. The heart is supported in any laborious effort; it is assisted in the great work of restoring a system, which has recently struggled with some violent attack; or it is allowed as it were to rest from a labour to which it is unequal, when the powers of life are nearly exhausted by any lingering disorder. In the relief thus afforded to an organ so essential to life, all other vital functions must necessarily participate, and the offices of secretion and assimilation will be promoted during such comparative repose from laborious exertion. Even the powers of the mind are, in many persons, manifestly affected by these kinds of motion. It is not only in cases of absolute deficiency of power to carry on the customary circulation, that the beneficial effects of gestation are felt, but equally so, when comparative inability arises from redundancy of matter to be propelled. When, from fullness of blood the circulation is obstructed, the whole system labours under a feeling of agitation, with that sensibility to sudden impressions which is usually termed nervousness. The mind becomes incapable of any deliberate consideration, and is impressed with horrors that have no foundation but in a distempered imagination. The composed serenity of mind that succeeds to the previous

alarm, is described by some persons with a degree of satisfaction that evinces the decided influence of the remedy. Dr. Wollaston quotes a very striking fact in justification of his theory; and adds, "If vigour can in any instance be directly given, a man may certainly be said to receive it in the most direct mode, when the service of impelling forward the circulation of his blood is performed by external means. The first mover of the system is thereby wound up, and the several subordinate operations of the machine must each be performed with greater freedom, in consequence of this general supply of power." In many cases (he further observes), the cure of a patient has been solely owing to the external agitation of his body, which must be allowed to have had the effect of relieving the heart and arteries from a great part of their exertion in propelling the blood, and may therefore have contributed to the cure by that means only. Different degrees of exercise must be adapted to the different degrees of bodily strength; and in some cases, a gentle, long-continued, and perhaps incessant, motion may be requisite; and, in these circumstances, sea voyages have sometimes been attended with remarkable advantage.

London Monthly Magazine for October, 1810.

Extract of a Letter from Lisbon, dated 12th May 1810, giving an Account of a singular Effect of the Fumes of Quicksilver, in the Crews of two Ships on that Station.

A large quantity of quicksilver was saved from the wreck of a Spanish ship about Cadiz, by two or three of our ships, and was placed in their spirit rooms. An alarming illness broke out among the crews, all of whom were more or less salivated. The surgeons, pursers, and three petty officers, who were nearest the place where it was stowed, felt its effects the most, their heads and tongues having swelled to the most alarming degree. We have been under the necessity of sending the Triumph to Gibraltar to be cleared, and to have the people sent to the hospital, this ship having been most affected, having had the greatest quantity of quicksilver on board. The Phipps schooner has been cleared in this harbour, by boring a hole in her bottom, to allow the quicksilver to run out. Every rat,

mouse, and cock-roach on board, has been destroyed, and the symptoms of general salivation have appeared in a strong degree. It may be a question whether this effect of the quicksilver was owing to its having lain long in sea-water, or whether the rotting of the leather bags which contained it might have a share in producing these *effluvia.* It is in favour of the latter opinion, that the officers above mentioned, who slept over the bags were most affected, whereas those who slept near the quicksilver, which run loose, were not affected. This was particularly observable in the Phipps schooner, where the men slept on the cables, close to where the quicksilver had flowed in consequence of escaping from the bags, and yet they were but little affected in comparison of the others.

The Editors are also informed, from undoubted authority, that three surgeons of the fleet were directed to meet, and after investigating this matter, to report upon it, and that their report confirms the particulars of this statement.

Edinburgh Medical & Surgical Journal.

OBITUARY.

Departed this life, on the 28th of September, 1810, JOHN ARCHER *Sen. M. D. of Harford county, Maryland.*

DR. ARCHER left this world full of years and full of honours. His life was truly devoted to the service of his fellow creatures, and to the glory of the great Redeemer. As a physician, he was beloved in a peculiar manner by all who knew him. Early piety, ripening into maturity with his years, enabled him to meet death in full persuasion of his acceptance with God, through a Redeemer.

The Doctor took his first degree in the arts at Princeton College, and was one of the first class of graduates in medicine that issued from the college of Philadelphia. His great popularity, founded in his deserved reputation for probity and honour, led his fellow citizens, of late years, to elect him their Representative to Congress, until his health failed and he could serve no longer.

It is some consolation to the public, for the loss of so valuable a citizen, that he has left four sons emulous of their father's virtues. Three of them are distinguished, practitioners in medicine; the other is a counsellor at law and a member of the legislature of Maryland.